

Open access realized: a critical review of the TAZAMA pipeline policy and its implications for Zambia's energy security

Abstract

Since April 2025, Zambia's Tanzania-Zambia Mafuta (TAZAMA) pipeline, previously used for crude transport, has functioned under a new Open Access regime, permitting multiple Oil Marketing Companies (OMCs) to transport low sulfur gasoil (LSGO) from Dar es Salaam to Ndola. This policy shift represents a landmark reform in the Zambian petroleum sector, aiming to foster competition, transparency, and energy security. This paper critically reviews the Open Access Policy (OAP), examining its design, implementation, and early outcomes in the context of Zambia's chronic energy challenges. We explore the institutional architecture, tendering processes, demand forecasting mechanisms, and the role of regulatory and governmental oversight. We also analyze emerging challenges, including allegations of monopolistic storage usage and capacity constraints, and assess their implications for market efficiency, pricing, and national energy security. Finally, we provide policy recommendations aimed at strengthening the OAP framework, mitigating risks, and aligning the pipeline's operations with Zambia's strategic energy needs.

Keywords: TAZAMA pipeline, open access policy, low-sulfur gasoil, energy security, petroleum sector reform, regulatory governance

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Introduction

Zambia has long grappled with energy insecurity, relying heavily on hydropower while simultaneously lacking refined domestic fuel infrastructure.^{1,2} Historically, the Tanzania-Zambia Mafuta (TAZAMA) pipeline transported crude oil into Zambia, where the now-defunct Indeni Refinery processed it (Figure 1). However, reforms under the current government have converted the pipeline to transport refined petroleum products, particularly diesel, marking a paradigm shift in the nation's energy logistics.^{3,4} In September 2023, the TAZAMA Pipeline Open Access Guidelines were formalized to enable equitable access for Oil Marketing Companies (OMCs)

to the pipeline capacity.^{1,5} The adoption of open access has broad implications that range from competition in fuel supply, downward pressure on prices, to improved energy security. Yet, implementation has not been without controversy, including accusations of monopoly over storage facilities and challenges in tendering.⁶⁻⁸

This paper offers a deep, technical, and policy-oriented review of the Open Access Policy (OAP) for the TAZAMA pipeline. By situating the reform within Zambia's broader energy crisis, we assess both the achievements and the risks, and propose recommendations for strengthening governance, market integration, and long-term resilience.



Figure 1 Schematic of the TAZAMA pipeline system (F44).

Background and context

Historical role of TAZAMA pipeline

The TAZAMA pipeline, a bilateral infrastructure between Tanzania and Zambia, was initially constructed to carry crude oil into Zambia.^{9,10} For decades, Indeni Refinery in Ndola processed that crude, supplying local demand. The refinery was eventually shut, leading to an accumulation of deadstock crude in the pipeline system. In early 2023, the Zambian government undertook a conversion of the pipeline from crude to refined products, specifically low-sulfur gasoil (diesel), to modernize and repurpose the asset.

Zambia's energy crisis

Zambia faces multi-dimensional energy pressures. On the electricity side, its heavy dependence on hydropower has made it vulnerable to drought, leading to blackouts and economic strain.¹¹⁻¹³ On the petroleum side, the absence of domestic refining capacity and inefficient supply chains have contributed to high fuel costs and limited market competition.¹⁴⁻¹⁶ Against this backdrop, the TAZAMA pipeline's conversion and the open access reform represent a strategic lever for energy security and cost efficiency.

The Open Access Policy (OAP): design and architecture

Legal and institutional framework

The Open Access Guidelines for the TAZAMA pipeline were formalized in a document jointly published by TAZAMA Pipelines Limited and Zambia's Ministry of Energy, grounded in the Energy Regulation (General) Regulations, Statutory Instrument No. 41 of 2023.²

Key objectives of the OAP include:

- i. Equitable access: to provide pipeline capacity to OMCs in a transparent, fair, and competitive manner.
- ii. Merit-based vessel scheduling: to include OMCs' vessels onto a dispatch schedule that is clear and just.

- iii. Demand planning: to support forecasting, documentation, and logistical planning for transported volumes.
- iv. Supply reliability: to guarantee a consistent and sustainable flow of LSG into the Zambian market.

To oversee implementation, the policy established Pre-Qualification and Selection Committees, composed of eleven members from diverse institutions that included private sector, policy institutes, engineering bodies, law associations, etc. The diversity of the committee aims to ensure legitimacy, expertise, and checks and balances.

Operational mechanisms: prequalification, bidding and dispatch

Prequalification process

- a) The Ministry of Energy publicly invited licensed OMCs to apply by advertising in national newspapers.
- b) Applicants are vetted by the Pre-Qualification Committee.
- c) Successfully pre-qualified firms are listed and become eligible to bid for access. The Energy Regulation Board (ERB) published a list of 18 prequalified OMCs in December 2024.

Tendering and capacity allocation

- a) Access is awarded through a quarterly tender, giving OMCs the opportunity to bid on lots of pipeline capacity.
- b) In April 2025, three lots, each 35,000 metric tonnes, were allocated: Titanium/ADNOC, Bolt Global, and Indeni Energy won the first allotment at a premium of US\$84/tonne.
- c) The guidelines encourage pick-or-pay contracts, meaning OMCs commit to a minimum take-or-pay volume to guarantee demand.

Demand forecasting

- a) OMCs are required to declare their demand 90 days in advance using a formal demand declaration form.
- b) Validation of demand uses Energy Regulation Board market-share data to prevent over commitment and to balance allocations.

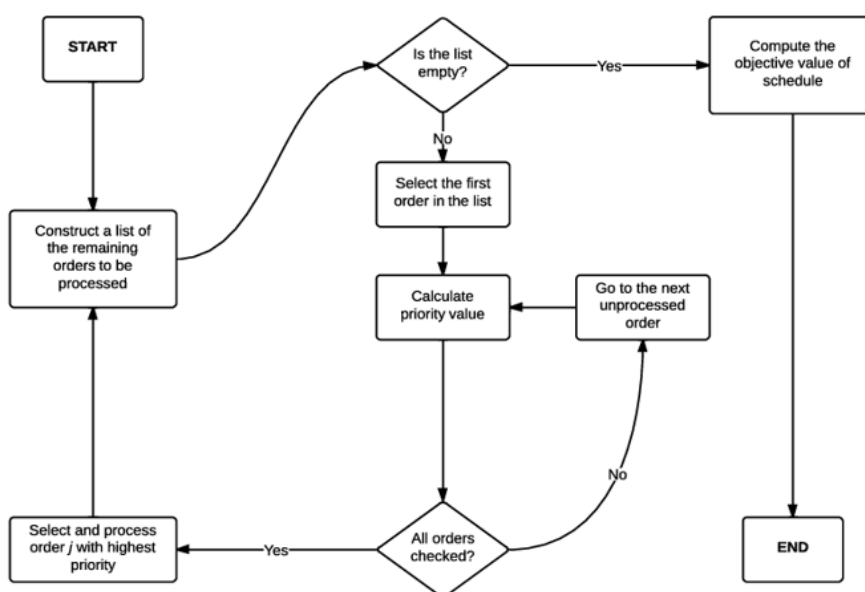


Figure 2 Open access process flowchart.

Early outcomes and developments

First tenders and market signals

The very first full-cargo tenders under the new system show early success in competition. The April 2025 tender saw three different companies each awarded 35,000 tonnes. Such an outcome suggests the policy design succeeded in breaking the monopoly structure that previously characterized pipeline use.

Pricing impacts

The premium of US\$84/tonne in the first tender indicates a benchmark for transport cost under open access. The competition introduced appears to be pushing OMCs to offer more favorable terms, which, in theory, could translate into reduced downstream pump prices.

Infrastructure and capacity expansion

Recognizing future demand growth, the Tanzanian tank farm, which feeds the pipeline, is being expanded from 233 million liters to 353 million liters. This reflects foresight on capacity scaling to support the open access regime.

Government commitment to transparency

The Ministry of Energy has publicly reaffirmed its commitment to transparent fuel pricing under the OAP, stating that fuel-price adjustments henceforth will reflect real market conditions that include global oil prices, exchange rates, and supplier competition rather than discretionary interference.

Addressing storage monopoly concerns

Despite reforms, challenges have emerged. The government faced accusations that Agro Fuel Investments Limited had reserved excessive storage at TAZAMA facilities, potentially crowding out other players. The Minister of Energy responded in parliament, defending the integrity of the open access system and affirming that storage allocation will remain equitable.

Technical and policy challenges

While early signs are promising, several technical and governance risks merit close attention.

i. Storage and off-loading constraints

- a) The reserve tanks' capacity and allocation mechanism could continue to be contentious. If certain firms dominate storage, others may face bottlenecks in off-loading.
- b) Scheduling of vessel dispatch onto the pipeline must remain fair because any bias could undermine the open-access ethos.

ii. Financial risks: premium volatility

- a) The high premium of US\$84/tonne may reflect early scarcity or over-demand resulting in future tenders that might see volatile premium bids.
- b) OMCs committed through pick-or-pay contracts may face financial stress if declared demand overstates actual downstream offtake, especially given macroeconomic uncertainty influenced by exchange rates and demand shifts.

iii. Regulatory and institutional capacity

- a) The Pre-Qualification and Selection Committees must maintain rigorous governance, avoiding capture or favoritism.

- b) Implementation depends strongly on the ERB's ability to monitor compliance, enforce contracts, and penalize underperformance.

iv. Transparency and Accountability

- a) While the open access policy is designed for fairness, civic trust depends on transparency, e.g., public disclosure of tender mechanisms, list of applicants, and evaluation criteria.
- b) Allegations of monopoly or preferential treatment, such as those around storage, could erode public support.

v. Energy security vs commercial incentives

- a) There is a tension between purely commercial use of pipeline capacity and national energy security objectives. For example, in times of tight global supply or rising prices, access may need to be prioritized for strategic reserves or state-linked entities.
- b) The government must balance access incentives with its strategic interest in ensuring fuel supply stability, especially given Zambia's vulnerability to external shocks.

Implications for Zambia's energy sector

Enhancing market competition and lowering costs

By enabling multiple OMCs to access the pipeline, the open access framework fosters competitive pricing, which may reduce costs for downstream consumers. Over time, this could help stabilize pump prices and reduce the burden on Zambian consumers and businesses.

Strengthening energy security

The converted pipeline provides a more resilient supply chain. Refined products are piped in from an external port, stored in well-resourced tanks, and distributed domestically. This mitigates risks associated with local refinery shutdowns, transportation bottlenecks, or import over-reliance on road transport.

Attracting private sector investment

Open access may incentivize more OMCs to enter the Zambian market, bringing fresh capital for storage, logistics, and distribution. This could improve market depth and reduce the role of monopolistic incumbents.

Governance and institutional development

The establishment of multi-stakeholder committees and transparent tendering processes builds institutional capacity in Zambia's energy governance. This has spillover benefits that result in strengthened regulatory institutions, more accountable pipeline management, and enhanced public trust.

Risk mitigation and policy recommendations

Based on the review, the following recommendations can help strengthen the TAZAMA Open Access Policy and align it with Zambia's long-term energy security:

i. Regular review and adjustment of guidelines

- a) Conduct formal reviews of the Open Access Guidelines annually to incorporate lessons from implementation, adjust lot sizes, premiums, and scheduling.
- b) Incorporate feedback from OMCs, civil society, and technical experts to ensure adaptive governance.

ii. Transparent disclosure

- a) Publish full tender documentation, which includes prequalification applications, evaluation criteria, successful bids, and vessel schedules.
- b) Maintain an online, publicly accessible dashboard managed by the ERB or Ministry of Energy tracking pipeline flows, storage utilization, and capacity allocation.

iii. Storage allocation monitoring

- a) Establish independent oversight or audit of storage utilization to guard against undue accumulation by single players.
- b) Reserve a portion of tank capacity for strategic national reserves or public-interest needs.

iv. Risk-sharing mechanisms

- a) Design contracts that share demand risk, e.g., limited take-or-pay or flexible contracts, to accommodate volatile downstream demand.
- b) Encourage insurance or hedging mechanisms to protect OMCs and the pipeline company from macroeconomic shocks, e.g., currency fluctuations.

v. Institutional capacity building

- a) Train and equip the Pre-Qualification and Selection Committees, as well as the ERB, with stronger technical capacity in petroleum logistics, finance, and contract enforcement.
- b) Support technological systems for demand forecasting, monitoring, and data analytics to smooth operations.

vi. Strategic reserve integration

- a) Integrate the TAZAMA system into Zambia's broader strategic fuel reserve planning in order to ensure that open access does not compromise the country's ability to maintain a buffer during external shocks.
- b) Explore partnerships (public-private) for reserve capacity that can be rapidly tapped when needed.

vii. Stakeholder engagement and public communication

- a) Maintain continuous engagement with OMCs, local communities, and civil society to build trust in the system.
- b) Develop a communications strategy to explain how open access works, how tenders are conducted, and how pipeline revenues and savings benefit the public.

Conclusion

The implementation of the TAZAMA Pipeline Open Access Policy marks a transformative moment in Zambia's petroleum landscape. By converting the pipeline to refined product use and opening it up to multiple competing entities, Zambia has created a more transparent,

competitive, and potentially cost-efficient fuel supply chain. Early outcomes such as successful tenders, active participation of major OMCs, and infrastructure expansion point toward positive momentum. However, significant challenges remain ensuring fair storage allocation, managing financial and demand risks, and safeguarding energy security in the face of commercial competition. To maximize the reform's success, the Zambian government and regulators must institutionalize adaptive governance, robust oversight, and stakeholder trust. With these safeguards, the TAZAMA open access regime could become a linchpin not just for petroleum logistics, but for national energy stability, economic competitiveness, and long-term resilience.

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