

Market Intelligence

Market, grid-reliability and macroeconomic context behind NFE's business case: outage studies, customer prospects, sector reports and economic outlooks.

- [Opinions on what causes Power Outages](#)
- [AES: From Backup to Backbone: Community Microgrids to boost National Grid Reliability](#)
- [Potential Customers](#)
- [Macro outlook: shilling, rates and NFE \(15 Oct 2026\)](#)
- [Sawa Energy's Bellavista proposal \(competitor benchmark\)](#)

Opinions on what causes Power Outages

We are sending out to this form to Ugandans in Urban areas to collect general opinions on what is causing power outages in Urban Communities

<https://nextcloud.nearlyfreeenergy.com/apps/forms/s/SaPBZqB6DMetHXs6REMDwPTF>

AES: From Backup to Backbone: Community Microgrids to boost National Grid Reliability

Africa has made significant progress expanding electricity access, yet a growing challenge is emerging: reliability. Millions of households and businesses remain connected to national grids that experience frequent outages, disrupting economic activity, education, healthcare, and daily life. In response, many consumers rely on costly and fragmented backup solutions such as diesel generators, batteries, and standalone solar systems.

This paper presents a community microgrid model for urban and peri-urban communities connected to unreliable national grids. Rather than replacing the utility grid, the model leverages shared solar and battery infrastructure to improve reliability, reduce costs, and strengthen local energy resilience. Communities begin by monitoring electricity consumption and outage patterns, then progressively deploy distributed energy resources (DERs) that evolve from backup systems into primary community energy infrastructure.

Drawing on lessons from a pilot deployment in Uganda, the paper examines the technical, economic, governance, and regulatory considerations required to implement community-owned microgrids at scale. Particular attention is given to cooperative ownership, affordability, grid integration, and digital platforms for managing DERs. The paper further explores how community microgrids can reduce peak demand on local transformers and substations, improving network performance and reliability for both participating and neighboring customers.

The paper argues that community microgrids can complement national electrification efforts while supporting utility networks. It also examines policy and regulatory frameworks that could enable wider deployment of community-scale microgrids and unlock private and community investment in local energy infrastructure.

Potential Customers

Name	Size	Customer Contact	NFE Contact	Phase
Sezibwa Homes	10 bungalows	Samuel Kisakye	Aaron Tushabe	Phase 1 operations
Pearl Marina - Bellavista Apartments	360 apartments (1 MW)	Bellavista HOA	Aaron Tushabe	Proposal. Sawa Energy has also proposed a lease-to-own system (benchmark)
Arkright Estates	26 bungalows	TBD	Aaron Tushabe	Discovery
Bugolobi Flats	Over 300 apartments	TBD	Aaron Tushabe	Discovery
Wandera Homes	13 households	Nimrod Wandera	Aaron Tushabe	Discovery
Ntinda Flats	30 apartments	John W. Matovu	Aaron Tushabe	Discovery
Innocent's Appartments (Serena heights owner)	35 apartments	Davi Mute	Hillary Arinda	Discovery
Worship Harvest	Commercial facility, ~6.9 MWh/month (Commercial RPM)	Via Dansturn Kimbowa	Aaron Tushabe	Proposal (sent 6 Oct 2026)

Macro outlook: shilling, rates and NFE (15 Oct 2026)

Macro outlook: shilling, interest rates and NFE (15 Oct 2026)

Asked by Aaron in the NFE leads chat. Facts are from public reporting found on 15 Oct 2026 (links at the end). Where sources disagree or I could not confirm, it is marked UNVERIFIED. NFE's own cost and funding numbers are not all known to this note; the "what we need" list at the end says which.

What happened

- **14 Oct, special MPC meeting:** Bank of Uganda raised the Central Bank Rate from 9.75% to **12%** (+225 bp), the first move after eight holds. (Aaron's chat said 9.5%; the reports say 9.75%.) Reasons given: shilling down about 12% this year, higher oil prices, strong dollar demand from fuel importers, foreign investors leaving government bonds.
- **Shilling:** weakest in 33 years, about **4,143 to 4,153 per US dollar on 12 to 13 Oct**. It reportedly strengthened more than 2% after the decision, but the reports give different levels (UNVERIFIED which is right). It passed 4,000 on 5 Oct.
- **Inflation:** headline 3.7% (June); energy, fuel and utilities 11.9% year on year, diesel up 37%. BoU now expects headline inflation to average **7 to 7.5%** over the next 12 months (core 5.5 to 6%) and cut 2026/27 growth to 6 to 6.5%.
- **Credit:** the cash reserve requirement rose from 11% to 13.5% on 24 Sep, so banks have less to lend. In August, shilling loans averaged 17.9% and foreign-currency loans 7.5% (before the hike). Post-hike lending rates: not found.
- **Electricity tariffs (ERA):** Q4 2026 (Oct to Dec) appears **unchanged from Q3** (domestic 779.4 UGX/kWh above the lifeline band, commercial 562.1). UNVERIFIED against the ERA PDF. ERA cited a 4.22% shilling depreciation when it held Q3.

How it reaches NFE

Channel	Direction	Why
---------	-----------	-----

Hardware (inverters, batteries, panels, meters, Pis)	Cost up	Priced off the dollar. Local quotes follow the shilling within weeks.
Solar quote (Mudde, UGX 4,426,000 materials)	Cost up	About USD 1,067 at 4,150. See table below.
Customer tariff in MGM	Lagged support	MGM bands mirror ERA's domestic tariff (250 / 779.4 / 412 / 779.4 UGX/kWh, UGX 7,320 service charge, 18% VAT). ERA reviews quarterly and has named the exchange rate as an input, so retail prices follow the dollar with about one quarter of delay.
Arbitrage (peak 666.5 vs off-peak 429.7 UGX/kWh, Code 10.2)	Mild support	The saving is set in shillings, so it grows only if ERA raises tariffs. Today about 189 UGX per shifted kWh, roughly UGX 35,000 a month on one site at 6 kWh a night. Small against hardware costs.
Borrowing	Cost up	CBR at 12% points to higher shilling loan rates (assumption: not yet seen). Dollar loans look cheaper (7.5%) but turn expensive if the shilling keeps falling.
Customers (Sezibwa households)	Risk	Fuel and food inflation cuts what households can spend; September's pilot bill was UGX 552,197 for 8 households, so a few late payers matter.
Cloud and SaaS (Hetzner in EUR, Claude Team, API credits)	Cost up, small	Charged in foreign currency. The Claude credits (USD 1,000) and any USD grant gain value in shillings.
Grid reliability	Possible risk	Fuel cost and import pressure can strain UEDCL. Our 20:00 to 22:30 L3 sag pattern is already grid-side.

Sensitivity: the Mudde solar materials quote (UGX 4,426,000 at 4,150/USD)

UGX per USD	Materials cost (UGX)	Change
3,950	4,212,700	-5%
4,150	4,426,000	base
4,500	4,799,300	+8%
4,800	5,119,200	+16%

UGX per USD	Materials cost (UGX)	Change
5,000	5,332,500	+20%

The quote is valid to about 22 Oct. Labour is extra and local (Green Volta).

What I would do

1. **Decide the solar order before the quote lapses (about 22 Oct)** or ask Mudde to hold the price in writing. Every 5% shilling move is about UGX 220,000 on materials.
2. **Buy hardware earlier rather than later** for anything already planned (spare meters, Pis, a second inverter), while the shilling is firmer after the hike.
3. **Keep any USD funding in USD** (grant, credits) until a shilling cost needs paying.
4. **Keep customer tariffs on the ERA bands** and re-read the ERA schedule every quarter (next: the Q1 2027 schedule, due about the end of December).
5. **Avoid new shilling debt** at the current rates unless the project pays back well inside a year; compare with a dollar-linked option only if income is dollar-linked.
6. **Watch the cash side of billing:** track unpaid bills in MGM monthly, because households are the first to feel inflation.

What we need to finish this properly

- The next hardware order (items, supplier currency, timing) and any quotes in USD.
- How the grant (about USD 3,000) is held and when it is spent.
- Any loan or financing plan for the next site.
- Whether solar panels, inverters and batteries now carry import duty or VAT: not found in the 2026/27 budget reports (UNVERIFIED). Check URA and EAC tariff lines 8541, 8504 and 8507.
- Post-hike commercial lending rates (next BoU Financial Stability or bank rate releases).

Sources

- Pulse Uganda: Bank of Uganda raises CBR to 12% (14 Oct 2026)
- bne IntelliNews: Uganda central bank raises rate to 12% at emergency meeting as shilling hits record lows
- Investing.com: Uganda central bank raises rates to 12% to support shilling
- UBC: Bank of Uganda raises interest rate to 12% as inflation and shilling pressures mount (14 Oct 2026)
- Pulse Uganda: Uganda shilling falls to lowest level in 33 years
- UG Business: Bank lending grows at its fastest rate since 2015
- Monitor: High fuel prices push Uganda's inflation to 3.7 per cent

- ERA: Approves electricity tariffs for the third quarter of 2026; Monitor and Watchdog Uganda on Q4 2026 tariffs
- KPMG and Forvis Mazars: Uganda Budget Brief 2026/27

Sawa Energy's Bellavista proposal (competitor benchmark)

“ What Sawa Energy offered Bellavista Apartments (Pearl Marina) for solar and storage, and what NFE took from it for the Commercial RPM. Bellavista is also in NFE's pipeline (see [Potential Customers](#)). Based on Sawa's proposal document "Bellavista (576kW) Proposal_Lease to Own_Battery", reviewed 18 Sep 2026. Owner: Aaron Tushabe.

Sawa's offer

Item	Sawa's Bellavista proposal
Solar	576 kWp
Battery	691 kWh (about 2 hours)
Ground area	3,200 m²
Stated system value	UGX 4.762 billion
Upfront cost to the customer	None
Monthly lease	USD 17,038 (operating lease USD 13,068 + O&M USD 3,970)
Term	25 years
Security deposit	3 months (USD 51,113)
Ownership	Optional purchase from year 3 at a declining, predefined price; transfer for USD 1 after 25 years
Share of consumption covered	43% overall; 85% of daytime consumption
Included	Monitoring, maintenance, insurance, warranty management, panel washing and repairs, with inverter replacement about every 7 years and battery replacement about every 10 years ("set it and forget it")
Sizing	Subject to validation by logging actual consumption

The lease comes to about USD 204,000 a year, or about USD 5.1m over 25 years before escalation or discounting. Bellavista pays it whether it uses a little electricity or a lot.

How it compares with a Commercial RPM

	Sawa (lease-to-own)	NFE Commercial RPM
Customer pays for	Equipment: a fixed monthly lease	Electricity used, per kWh at the utility tariff, with a 50% minimum
Who carries volume risk	The customer	Mostly NFE, above the 50% floor
Reliability	Comes with the equipment	Part of the service and included in the price
Proposal is built around	The asset (kWp, kWh, system value)	The service (the power stays on at the same price)
Capital	The full system up front	In phases: measure first, then build what the data supports
Ownership	From year 3; USD 1 at year 25	Optional purchase from year 5

What NFE adopted

- **"Set it and forget it" risk allocation.** NFE owns, monitors, maintains, repairs, insures and replaces the equipment for as long as it runs the system, all covered by the energy price.
- **A predefined buyout schedule** agreed at signing, so the customer always has a path to ownership at a known price.
- **An onboarding sequence:** data logging → credit assessment → site assessment → final design → contract → deployment. Sawa asks for corporate documents, utility bills or audited statements, credit references and site or roof information.

What NFE does differently, on purpose

- Bills for energy, not for equipment.
- Leads proposals with the service, with the hardware list secondary.
- Deploys capital in phases as consumption is proven, rather than financing the whole system on day one.

Related: [NFE Commercial Reliable Power Microgrids](#) · [Commercial RPM decision log](#)