

Business

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Fundraising

Fundraising Tracker

Name	Type	Priority	Status	Owner	Remarks
Arinda Family	Recoverable Grant	High	1k Contributed		
Kimbowa Family	Recoverable Grant	High	Offered 1k USD, not yet contributed		
Tushabe Family	Recoverable Grant	High	10k USD Contributed on Dec 1st 2024		Added an addition ~1800 USD in October 2025
Mercy Corp Ventures	Equity	medium	<p>Reviewed the deck in May 2025.</p> <p>While the team liked the community angle, the key concerns were</p> <ol style="list-style-type: none"> 1. The scalability of the model and 2. Traction (it's still early) <p>Requested to be added to investor newsletter</p>	Aaron Tushabe	We are no longer pursuing equity funders because as a co-op, we don't have equity to offer.
Energy Sector Management Assistance Program - ESMAP (World bank)	Grant	medium			

Echoing Green Fellowship	Recoverable Grant	high	Submitted on October 7th 2025	Aaron Tushabe	Waiting for feedback in March 2025
EPP Africa (Nordic Development Fund)	Grant	high	Closed for 2025, planning to apply for 2026. Not sure when it opens again	Aaron Tushabe	
Africa Climate Change Fund	Grant				
African Green Banks (AFBD)	Grant + Debt				
Alliance for Green Infrastructure (AFDB)	Grants + Debt	high	Send an email to info@africa50.com on August 23rd.	Aaron Tushabe	
Beyond the Grid			No open applications yet https://beyondthegrid.africa/funding-rounds/		
US Department of Energy	Grants				
Nithio	Debt		Needs at least 2 years of business to pass loan application	Aaron Tushabe	
Mission 300 (World bank)		low			Focusing on power for remote and off grid communities so no aligned with our early stage objectives
Factor E	Equity				We are no longer pursuing equity funders because as a co-op, we don't have equity to offer.

Kiva.org	Debt				Check back on August 15th
Digital Africa	?		Applied on June 17th 2025. Waiting for Feedback	Aaron Tushabe	
Aquarius Foundation	Grant or Debt		Applied on June 17th 2025. Waiting feedback	Aaron Tushabe	
Start-coop	Grant		Applied on June 18th. We did not qualify because we are not (yet) based in North America	Aaron Tushabe	Expect \$5k to \$50k
LabStart	Grant		Submitted application on July 7th. Not Accepted	Aaron Tushabe	
CataCap	Grant / DAF	medium		Aaron Tushabe	
Mission300	Grant?			Aaron Tushabe	
Energy IoT Open Source	Grant		Pledged 3k by Arila Barnes (founder and CEO)	Aaron Tushabe	gone cold
Project Spark EU	Grant	high	Submitted on September 15th 2025 with EnAccess and The Gym Rwanda	Aaron Tushabe	Got feedback on Nov 21st 2025 that we did not meet the eligibility criteria but they didn't elaborate on which criteria
AMAP		medium			

Praxis		High	Submitted on September 20th 2025.	Aaron Tushabe	We did not get in. They thought we were among the top applicants and recommended we apply again next year.
UGEFA		medium		Aaron Tushabe / Dansturn	Requires 2+ years of operations so we would need to apply via green volta
Green Volta	Recoverable Grant	high	Waiting on Budget from NFE to confirm how much they can contribute	Dansturn	
Samuel Tondo	Recoverable Grant	high	Waiting on Budget from NFE to confirm how much they can contribute		
Digital Energy Challenge	Grant	high	Waiting on Call for Applications to open up in March 2026	Aaron Tushabe	
D-Prize	Grant	high	Opens October 13th	Aaron Tushabe	Submitted on October 28th 2025, expecting to hear back in 4 to 6 months
MSISV	Grant and Equity	high	Email sent on Oct 16th 2025 to find out when applications will be open again	Aaron Tushabe	
Sunbird AI	Fellowship		They are offering a research program that could help us develop V1 of our autonomous microgrid	Aaron Tushabe	
Sustainable Energy Fund for Africa (SEFA)	Grant	low	No links to getting involved	Aaron Tushabe	

Energy IoT Open Source	Donations	medium	EIoT can service as a fiscal sponsor to receive tax deductible US donations on our behalf.		Need to register a US entity for this
Funding Hope	Crowd funding	medium		Aaron Tushabe	
Develop Ventures	Grant matching	medium	Uganda not eligible right now	Aaron Tushabe	Closes Dec 31 2025
Carbon Credits		low	Initial meeting with Ashaba told us that this is going to be a long lead time option to explore.. at least 7 years before any credits are verified and bankable	Aaron Tushabe	
DRK Foundation		high	Focusses on post pilot, pre-scale. I think we are not yet post pilot	Aaron Tushabe	

Recoverable Grant Term Sheet - 50k Example

1. Grantor (Funder):

Green Future Foundation (GFF)

2. Grantee (Recipient):

Nearly Free Energy Co-op (NFE)

3. Purpose of Grant:

To fund the capital expenditure and initial setup of a 20 kW solar microgrid serving 50 households in [Community Name], Uganda.

4. Grant Amount:

\$50,000 USD

5. Disbursement Schedule:

- 40% upfront upon signing agreement
- 30% upon installation of core infrastructure
- 30% upon commissioning and first billing cycle

?? 6. Recoverability Clause (Repayment Terms):

Trigger	Repayment Terms
If the microgrid achieves \geq \$1,000/month in net revenue for 6 consecutive months within 3 years	Grantee repays the full grant amount over 4 years, at 0% interest
If the project is not commercially viable by year 3 (e.g., $<$ \$1,000/month in net revenue)	No repayment is required

Trigger	Repayment Terms
If the grantee secures follow-on grant investment of > \$100,000	Grantee repays full grant or 10% of the investment value, whichever is lower

7. Use of Funds:

- Solar panels, batteries, smart meters, inverters
- Site preparation and installation labor
- Community training and billing setup
- Product development for Microgrid OS

8. Reporting Requirements:

Quarterly reports for 3 years on:

- Energy generated and distributed
- Financial performance
- Number of customers served
- Maintenance issues and resolutions

9. Intellectual Property (IP):

All software or monitoring systems developed under this project must remain open-source and licensed under AGPL or GPL or any other [Free Software license](#)

10. Dispute Resolution:

Mediation first, then arbitration in Uganda under the Uganda Centre for Arbitration and Dispute Resolution (CADER).

Google for Startups Accelerator –Application

1. Applicant Contact Information

1. What is your full name (first and surname)?
 2. Your Business/Company Email Address
 3. What is your role?
 4. Preferred Contact Number
 5. Contact Number Type
-

4. Additional Information

15. Why are you interested in joining this program? How can Google help?

Response:

Nearly Free Energy builds community-owned microgrids to deliver affordable, reliable electricity in underserved communities. Our mission is to lower energy costs while improving resilience through decentralized systems.

As we scale beyond pilots, we are increasingly using software and AI for distribution, forecasting, billing, and reliability. Google can help us accelerate this by enabling scalable microgrid OS development on GCP with advanced analytics and AI.

16. How did you hear about this program?

Response:

LinkedIn startup and AI founder community.

17. If selected, are you interested in participating in possible interviews with local press outlets, as requested?

Response:

Yes.

18. Please list any past accelerator or startup program participation.

Response:

Please list links to any press coverage, awards or nominations.

n/a

<https://enaccess.org/open-source-energy-access-community-showcase-with-aaron-tushabe/>

21. Do you want to receive updates or communication from the Accelerator program about other programs within Google?

Response:

Yes.

5. AI & Technology

22. How is your company primarily leveraging AI?

Response:

We are building AI as an intelligent grid operator for our microgrids—optimizing distribution, forecasting demand, managing battery dispatch, and detecting anomalies. We are also developing agents to automate support, billing, and outage notifications.

23. What are the key 1–3 challenges that your company is facing in adopting AI?

Response:

(1) Limited high-quality real-time energy data; (2) Integrating AI with physical infrastructure and edge devices; (3) Cost-efficient deployment in low-resource environments.

24. What kind of data does your AI model use?

Response:

Energy consumption data; meter readings; system performance data; environmental and load patterns.

25. What data do you use as part of your AI solution?

Response:

Smart meter data, usage logs, battery and solar performance data, and system telemetry.

26. How would you categorize your product?

Response:

AI-enabled energy infrastructure platform.

27. Do you have a dedicated AI team?

Response:

Cross-functional team with growing AI specialization.

28. In 2 sentences, explain what problem you are solving with AI.

Response:

Energy systems lack real-time intelligence to manage distributed supply, storage, and demand, leading to outages and inefficiency. We use AI as a grid operator to optimize distribution, forecast demand, manage storage, and automate customer interactions.

29. AI maturity

Response:

Early production-stage AI with live data pipelines and initial models in deployed microgrids, transitioning toward autonomous operations.

30. What kind of AI does your product use?

Response:

Currently AI-assisted development; roadmap includes predictive analytics, time-series forecasting, and optimization models for demand, dispatch, and anomaly detection.

31. Cloud platform

Response:

Google Cloud Platform (GCP).

33. Which Google products are you using?

Response:

GCP (Compute Engine, Cloud Run, Cloud Storage) and BigQuery.

34. Do you use AI/ML today?

Response:

Yes—AI-assisted development and early data-driven monitoring, with planned rollout of forecasting, optimization, and automated operations.

35. System architecture

Response:

Edge devices (smart meters via RS-485/Modbus) feed data to local controllers, then to GCP (Cloud Run, Storage). BigQuery supports analytics. We are adding AI for forecasting, anomaly detection,

and optimization within a modular microgrid OS.

36. Accelerator goal

Response:

Build an AI-driven microgrid OS that autonomously balances supply/demand, forecasts load, optimizes battery use, and manages operations. This includes agent workflows for forecasting, anomaly response, billing, support, and outage alerts, targeting improvements in uptime, cost/kWh, and customer experience.

6. Traction & Financials

40. Investors

Response:

Founder, friends, and family.

41. MRR

Response:

~\$120-\$150 MRR from a live pilot (~UGX 450,000-550,000/month), with expansion pipeline.

42. Revenue source

Response:

Electricity sales (NFE-owned) plus upcoming SaaS fees and revenue share from partner-owned microgrids.

7. Product & Market

47. Stage

Response:

Live pilot with revenue (10 customers) and active expansion pipeline.

48. Customer

Response:

Primary: developers, landlords, and community operators. End users: residents benefiting from reliable power, automated billing, and improved service.

49. Customers now

Response:

10 paying customers on a live pilot microgrid, with expansion pipeline.

50. Business model

Response:

(1) NFE-owned: revenue from electricity sales; (2) Partner-owned: SaaS fee per connection + % of energy sales; plus maintenance and value-added services.

51. Industry

Response:

Energy / Climate Tech

52. Verticals

Response:

Climate tech; energy infrastructure; smart grids.

53. Company description

Response:

Nearly Free Energy advances energy resilience, reliability, and abundance through community-owned solar and battery-backed smart microgrids. Grid-connected systems improve stability by managing peak load.

54. Problem

Response:

Electricity is unreliable, costly, and lacks real-time intelligence. Peak demand strains grids, while communities lack local control.

55. Solution

Response:

Grid-connected, community-owned microgrids with an AI-driven OS that optimizes distribution, manages peak load, automates operations, and improves reliability and cost.

8. Team

60. Full-time founders

Response:

1

61. Founder

Response: Aaron Tushabe - Co Founder

Hillary Arinda - Co founder

Dansturn Kimbowa - Co Founder

65. Employees

Response: 2

9. Uploads

66. Pitch deck

Response:

[[NFE Pitch - Funders.pdf](#)]

67. Links

Response:

N/A

68. Photos

[[PXL_20251217_100220589~2.jpg](#)]

[PENDING]

69. Logo

Response:

[[NFE site logo.png](#)]

10. Consent

70. Submit

71. Communications

Google.org Impact Challenge: AI for Government Innovation

Nearly Free Energy (NFE) – Draft Application

I. Organization and Submitter Info

1. Organization Name

Nearly Free Energy

2. Country

Uganda (with operations expanding to East Africa and pilot work in the United States)

3. Classification

Social Enterprise

4.a Founded

2024

4.b Annual Budget (USD)

~\$50,000 (early-stage, pilot operations)

4.c Full-time Employees

2

5.a Website

<https://nearlyfreeenergy.com> (or placeholder)

6. Google.org funding before

No

7. Discovery

Social Media (LinkedIn)

8. Primary Contact

Aaron Tushabe – Co-Founder

II. Impact

11. Project Name

AI-Powered Distributed Grid Intelligence for Public Infrastructure

12. Topics

Resilience; Economy (public infrastructure and affordability)

13. Geographic Scope

County / Municipal; National (scalable)

14. Regions

EMEA; North America

15. Stage

Prototype (live pilot with paying users)

16. Problem Statement

16.a

Public electricity systems in rapidly growing urban and peri-urban areas are increasingly unreliable, expensive, and unable to manage real-time demand fluctuations. Utilities lack visibility into distributed consumption and have limited tools to optimize load, leading to frequent outages, inefficient infrastructure investment, and constrained economic activity.

16.b

This project directly affects grid load balancing, demand forecasting, outage response, and infrastructure planning workflows within utilities and regulatory bodies. It introduces real-time decision support and automation into how public electricity systems are monitored, managed, and optimized.

16.c

The challenge is significant and growing at a global scale. In 2013, approximately 1 billion people lacked access to electricity, with another 1 billion connected to unreliable grids. By 2023, global electrification efforts reduced those without access to ~600 million, but the number of people connected to unreliable grids has surged to an estimated 3 billion. In South Africa, recurring load shedding disrupts economic activity and essential services, while in Lagos, Nigeria, widespread reliance on 24/7 diesel generators drives high costs and severe air pollution. These trends highlight a critical gap: expanding access alone is not enough—there is an urgent need to improve reliability

through intelligent, flexible grid systems.

17. Proposed Solution

17.a

We are building an AI-powered distributed grid intelligence platform that serves as a real-time control layer for national electricity systems—turning community-scale microgrids into coordinated assets that improve reliability, reduce peak demand, and expand affordable access.

17.b

The platform integrates smart meter and telemetry data (RS-485/Modbus), edge controllers, and GCP (Cloud Run, BigQuery) with AI models for time-series forecasting, demand optimization, anomaly detection, and agentic workflows. These AI agents continuously analyze grid conditions and autonomously trigger actions such as battery dispatch, demand response, outage alerts, and customer support, enabling dynamic, real-time system optimization.

17.c

We have demonstrated feasibility through a live pilot microgrid with paying users, where we collect real-time energy data and operate a working system that improves uptime, visibility, and load balancing. Early results show smoother demand curves and reduced dependence on unstable grid supply.

17.d

To ensure adoption, we are designing the platform as a government-integrated system with dashboards, APIs, and reporting aligned to utility workflows such as grid planning, outage management, and demand response. We are engaging regulators and utilities to enable distributed energy resources to function as coordinated grid assets within national systems.

18. End Beneficiaries

18.a

Urban and peri-urban households, small businesses, utilities, and regulators.

18.b

We incorporate feedback through pilot deployments, user billing data, and direct engagement with communities and operators.

18.c

Initial reach: hundreds of users, scaling to tens of thousands across multiple deployments over 36 months.

19. Expected Outcomes

19.a

Improved electricity reliability, reduced outages, and more efficient grid utilization.

19.b

Metrics: uptime, cost per kWh, peak load reduction, customer satisfaction.

19.c

Failure signals: no measurable improvement in reliability, low adoption by utilities, or inability to integrate with existing workflows.

19.d

Expected improvements include 20–40% reduction in peak load stress and significant improvements in uptime.

19. Expected Outcomes

19.a

This solution will improve public electricity services by increasing reliability, reducing dependence on diesel generation, and enabling governments and utilities to manage distributed energy resources as coordinated grid assets. It will expand access to clean, affordable, and reliable electricity while improving planning and operational efficiency.

19.b

Key metrics include: number of people with improved reliable electricity access; MWh of distributed energy storage deployed; reduction in peak grid load (%); uptime improvements (%); reduction in diesel generator usage; and number of utilities/regulators actively using platform data for planning.

19.c

Failure indicators include: inability to scale deployments; low adoption by utilities or regulators; no measurable improvement in reliability or peak load reduction; or lack of engagement from DER operators and ecosystem partners.

19.d

Within 12 months, we aim to enable deployment of at least 1 MWh of distributed energy storage across Africa through direct deployments and partner-led adoption. Within 36 months, we target improving access to reliable, clean electricity for at least 1 million people by scaling autonomous microgrids and supporting an open ecosystem of DER operators using our platform.

III. Innovative Use of Technology

21. Why is your proposed solution necessary to address the problem versus currently available alternatives?

Current approaches either expand centralized grid capacity (slow, capital-intensive) or deploy isolated off-grid systems (limited coordination, no grid support). Existing tools lack real-time, system-wide intelligence and cannot integrate distributed energy resources (DERs) into utility operations. Our solution introduces an AI-driven control layer that coordinates microgrids as grid assets—enabling forecasting, automated dispatch, and demand response. This uniquely improves reliability at scale, reduces peak stress without new generation, and provides governments with actionable, real-time planning data.

20. Technologies

GCP (Cloud Run, BigQuery), smart meters, edge computing, time-series AI models, optimization algorithms.

21. Why needed

Existing systems lack real-time intelligence and integration of distributed energy resources.

22. Dataset

Yes

23. Data access

Through smart meters, utility collaboration, and anonymized operational data.

24. Ethics

We use anonymized data, ensure transparency, and align with responsible AI principles.

25. Open source

Yes

26. How might you leverage Google's pro bono technical support and expertise to accelerate project outcomes?

We will leverage Google's AI and cloud expertise to build and scale our distributed grid intelligence platform. Specifically, we seek support in developing robust time-series forecasting and optimization models, designing agentic AI workflows for autonomous grid operations, and optimizing our architecture on GCP (BigQuery, Cloud Run) for real-time data processing at scale. We also aim to learn from Google's experience operating highly reliable, large-scale infrastructure (e.g., data centers) to inform how we design resilient, fault-tolerant energy systems. Additionally, we would benefit from guidance on responsible AI deployment, model evaluation, and integration with public sector data workflows to ensure reliability, scalability, and government adoption.

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We would also benefit from guidance on responsible AI deployment, model evaluation, and integrating our system with public sector data workflows to ensure reliability, scalability, and government adoption.

AI model optimization, scaling infrastructure, and system architecture design.

IV. Feasibility

27. Why is your organization uniquely positioned to lead this project?

Nearly Free Energy uniquely combines hands-on microgrid deployment with AI-driven software development in emerging markets. We operate a live pilot with real users and data, giving us practical insight into grid constraints, customer behavior, and operational challenges. Our team spans energy systems, embedded hardware, and cloud/AI engineering, enabling end-to-end execution from meters to models. We are also actively engaging regulators and utilities on DER policy and integration, positioning us at the intersection of infrastructure, data, and government adoption—where this problem must be solved.

29. Describe the work you have done to demonstrate the technical feasibility of your approach.

We have deployed a live pilot microgrid with ~10 paying customers, instrumented with smart meters (RS-485/Modbus) and cloud ingestion to GCP (Cloud Run, BigQuery). We collect continuous telemetry (kWh, voltage, load profiles) and run initial analytics for load visibility and anomaly detection. We have tested controlled battery dispatch to smooth peak demand and validated end-to-end data pipelines (edge → cloud → dashboards). Success metrics include sustained data uptime (>95%), accurate load measurement, improved peak smoothing on pilot circuits, and reliable billing/alert workflows. These results demonstrate feasibility of real-time data-driven operations and AI-assisted optimization.

30. Key technical risks, dependencies, maintenance, and mitigation strategies

Key risks include hardware integration variability, intermittent connectivity, data quality gaps, and model performance in low-data environments. Adoption depends on utility/regulatory alignment and integration with existing workflows. Ongoing needs include device maintenance, data pipeline reliability, and model monitoring. Mitigations: modular, standards-based design (Modbus/REST); offline-first edge control with local fallbacks; redundancy and buffering for connectivity; continuous data validation and monitoring; phased model rollout with human-in-the-loop; training and SLAs with partners; and close coordination with regulators/utilities to ensure smooth integration and sustained operations.

31. Policy, administrative, privacy, and logistical risks and mitigation

Policy risk: delays or uncertainty in DER interconnection and PPA frameworks. Mitigation: early engagement with ERA/utility stakeholders, alignment to existing codes, and pilot-based regulatory sandboxes.

Administrative risk: slow procurement/adoption within public entities. Mitigation: lightweight pilots, clear ROI metrics, and integration with existing workflows and reporting.

Privacy/data risk: handling consumer energy data. Mitigation: data minimization, anonymization, role-based access, encryption in transit/at rest, and compliance with local data protection laws.

Logistical risk: installation/maintenance at scale. Mitigation: standardized hardware kits, local partner installers, remote monitoring, and SLA-driven support.

32. How will public servants be trained, supported, and incentivized to adopt and use this solution as part of their regular workflows?

Government entities are not primary users of the platform; their role is to create enabling regulatory frameworks that build trust in DER operators. We will support regulators through targeted briefings, data-sharing dashboards, and policy workshops that translate system insights into actionable regulation. By providing clear visibility into demand patterns, grid impact, and reliability improvements, we enable regulators to confidently design and enforce DER policies. Incentives for adoption come from improved oversight, better planning data, and the ability to expand reliable electricity access without additional public infrastructure investment.

33. Provide additional detail about 3-5 key project team members, especially those in technical roles.

Microgrid/Energy Systems Engineer – designs and operates DER systems, battery dispatch, and grid integration.

Backend/Cloud Engineer – builds scalable data pipelines and APIs on GCP (Cloud Run, BigQuery).

Data Scientist/ML Engineer – develops forecasting, optimization, and anomaly detection models.

Embedded/IoT Engineer – integrates smart meters (Modbus/RS-485) and edge controllers.

Operations/Deployment Lead – manages field installation, partner coordination, and system reliability at scale.

Policy & Partnerships Lead – drives regulatory engagement (e.g., ERA), supports DER policy development, secures government buy-in, and enables partner operators in new markets to navigate regulation and scale deployments.

VI. Scalability

36. Based on your previous selection, detail how you'd replicate success beyond your initial proposal.

We will scale through a dual approach: direct deployments and an open ecosystem model. We will standardize our microgrid architecture (hardware + AI software) into repeatable deployment kits and publish the platform as open source, enabling local DER operators to adopt and deploy in their markets. We will partner with utilities and regulators to integrate these systems into national grids, creating a coordinated network of distributed assets. As we scale, we will expand our team across engineering, partnerships, and operations to support multi-country deployments and ecosystem growth.

37.a Financial sustainability

Sustained via electricity sales (10–30% gross margins) from NFE-owned microgrids, plus SaaS fees and revenue share from partner-operated systems. As deployments scale, recurring revenues from energy and platform services cover operations, maintenance, and continued expansion without grant funding.

37.b Technical sustainability

Cloud-native architecture on GCP with automated monitoring and CI/CD; offline-capable edge controllers ensure resilience. Open-source platform enables contributions from partners/operators. Standardized hardware kits and SLAs support maintenance, while local partners handle installation

and support at scale.

38. What key learnings, datasets, models, codebases, or other artifacts will your project generate, and how will you share them with other organizations to help advance the field?

We will generate real-world energy datasets (anonymized usage, demand response, grid performance), AI models for forecasting and optimization, and an open-source microgrid OS. Our company culture is to work in the open—we already publish our work via our website and public wiki (nearlyfreeenergy.com; bookstack.nearlyfreeenergy.com). We will continue sharing code, documentation, and operator playbooks to enable other DER operators and governments to replicate and build on our approach globally.

VII. Project Budget and Timeline

41. Funding Request

\$2,500,000

42. Personnel & Staffing — \$600,000

Covers salaries for core team: AI/ML engineers, backend/cloud engineers, energy systems engineers, and operations staff. Includes hiring additional technical talent to build forecasting, optimization, and agentic AI systems, as well as project management and field deployment coordination.

43. Technology Development — \$300,000

Development of AI models (forecasting, optimization), software platform (microgrid OS), APIs, dashboards, and data pipelines. Includes costs for software engineering, model training, testing, and integration with edge devices and utility systems.

44. Infrastructure & Deployment — \$1,900,000

Procurement and deployment of smart meters, edge controllers, and battery-integrated systems for pilot and scale-up sites. Battery storage is a primary cost driver, with an estimated requirement of ~1.5 kWh per household at approximately \$450 per kWh deployed. This category covers battery capacity, installation materials, field operations, connectivity, and cloud infrastructure (GCP compute, storage, and data processing).

45. Partnerships & Ecosystem Growth — \$150,000

Government engagement, regulatory workshops, and partnership development with utilities and DER operators. Includes ecosystem-building activities, training sessions, and support for onboarding partners to deploy and operate microgrids using the platform.

46. Monitoring, Evaluation & Overhead — \$50,000

Measurement of impact metrics (uptime, peak reduction, access), reporting, and program evaluation. Includes minimal indirect costs such as administration, coordination, and compliance (kept under 5%).

Sezibwa Homes

This is a community of 10 homes in Nansana, Gadaffi close. It is the location of NFE's first Reliable Power Microgrid (RPM) in Uganda

Budget - Phase 1: Sezibwa Homes

Realtime financials tracked via open collective here:

<https://opencollective.com/nfe/projects/sezibwa-homes-nfe-pilot>

Bill of Quantity NFE-Nansana

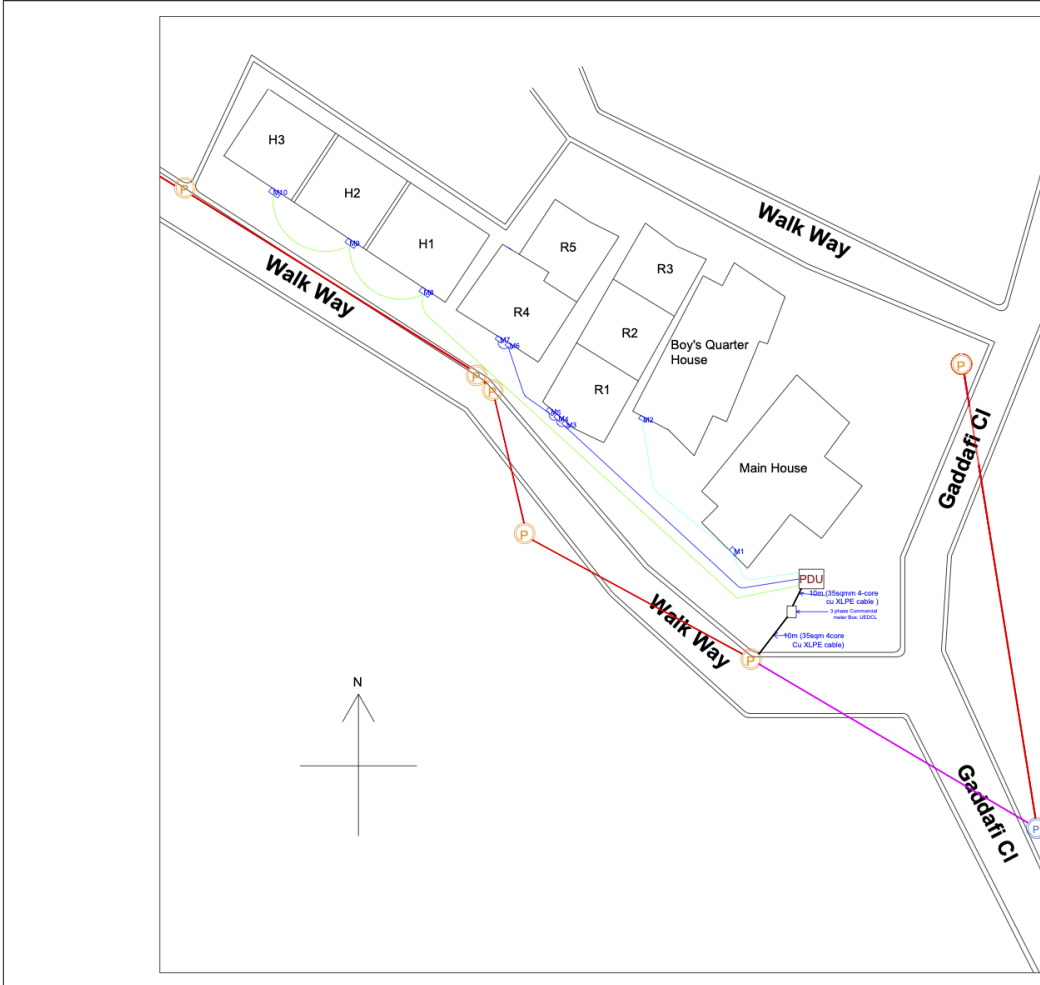
S/No	Item	Specifications	Quantity	SI Unit	Rate(UGX)	Amount (UGX)
1	Enclosure box for the PDU	80cm*60cm*25cm	1	box	550,000	550,000
2	Single phase MCCB	160A ABB	3	pc	120,000	360,000
3	Three phase Smart meter	80A Chint	1	pc	400,000	400,000
4	Busbars (Red, Yellow, Blue, Black and Green Yellow)	200A	5	pc	150,000	750,000
5	Circuit breakers	80A	10	pc	30,000	300,000
6	Enclosure Trunkings (Slotted grey trunking)		2	pc	30,000	60,000
7	Din rail		1	pc	10,000	10,000
8	Self tapping screws	0.5"	1	pkt	35,000	35,000
9	Cable lugs ring	16mm pin	18	pc	3,000	54,000
10	Cable lugs ring	25mm ring	18	pc	5,000	90,000

11	Sleeves	25mm	2	m	5,000	10,000
12	Sleeves	16mm	2	m	3,000	6,000
13	Flexible Cable Red	25mm	2	m	15,000	30,000
14	Flexible Cable Blue	25mm	2	m	15,000	30,000
15	Flexible Cable Yellow	25mm	2	m	15,000	30,000
16	Flexible Cable Red	16mm	4	m	8,000	32,000
17	Flexible Cable Yellow	16mm	4	m	8,000	32,000
18	Flexible Cable Blue	16mm	4	m	8,000	32,000
19	Flexible Cable Yellow Green	10mm	2	m	5,000	10,000
20	Flexible Cable Black	2.5mm	2	m	1,500	3,000
21	Flexible Cable Green	2.5mm	2	m	1,500	3,000
22	Flexible Cable	2.5mm	2	m	1,500	3,000
23	Communication Cable	1.5mm	6	m	1,500	9,000
24	Indicator lamps	230V	3	pc	5,000	15,000
25	Double Socket	Pcs	1	pc	10,000	10,000
26	Insulating tape	Pcs	5	pc	3,000	15,000
27	Pin lugs 25sqmm for different colours	Pkt	1		4,000	4,000
28	Pin lugs 16sqmm for different colour	pkt	1		3,000	3,000
29	Airal Cable	35sqmm ABC Cable	100	m	15,000	1,500,000
30	IPC	35-70sqmm	8	EA	6,000	48,000

31	Armoured Cable	25qmm	10	m	65000	650,000
32	UEDCL 3phase Commercial Meter	TOU Code 10.2	1	EA	3,500,000	3,500,000
33	Service Cable	16sqmm 2 Core cable	30	m	15,000	450,000
34	Service Cable	16sqmm 3 Core cable	150	m	30,000	4,500,000
35	Service Cable	16sqmm 5 Core cable	100	m	50,000	5,000,000
36	Smart Meters	1 Phase DinRail Split prepaid meter-1.pdf	10		290,000	2,900,000
37	LoraWAN gateway	CAL-025.pdf	1		1,803,000	1,803,000
38	Labor (installation)	Green Volta			2,000,000	2,000,000
Total						25,237,000

Reconciled budget attached [1RECONCILIATION NFE-NANSANA.pdf](#)

Site Layout



LEGEND

	Single phase electric pole
	Three phase electric pole
	Single phase bare to be upgraded to 3-phased bare 50sqm ACSR
	Meter one
	Power Distribution Unit
	Existing single phase bare 50sqm ACSR
	5-Core Copper 16sqm XLPE
	3-Core Copper 16sqm XLPE
	2-Core Copper 16sqm XLPE

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revision	date	description

CLIENT:
Nearby Free Energy (NFE)

PROJECT TITLE:
Nansana Rentals

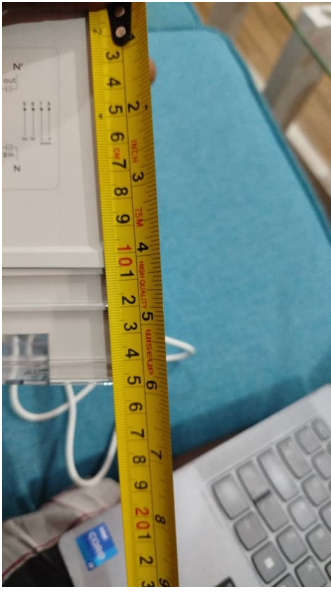
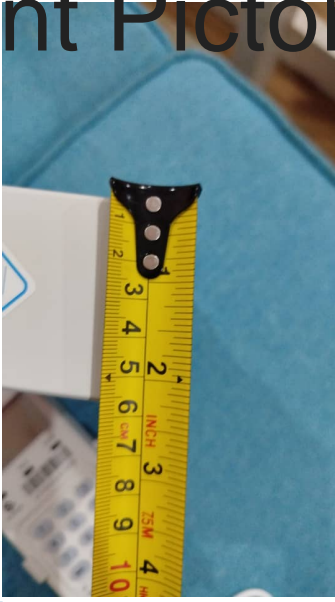
Drawing title

Date June, 2025	Scale of A2 1:1	Scale of A3 N/A
Drawn by Phungu Mngisi	Checked by Eng. Kholiso Dandaru	Approved by Eng. Kholiso Dandaru



Project number	Revision	Drawing number
Issue type		
SUBMISSION		

Procurement Pictorial





Monthly Finances

Energy Sales

We are making these sales projects based on what they spend today and not the power they use.

- Number of Customers: 10
- Average historical spend per customer: 80,000 UGX per month (about 3kWh per day, for 30 days)
- Total Revenue: 800,000 UGX per customer (800 UGX per kWh)

Expenses

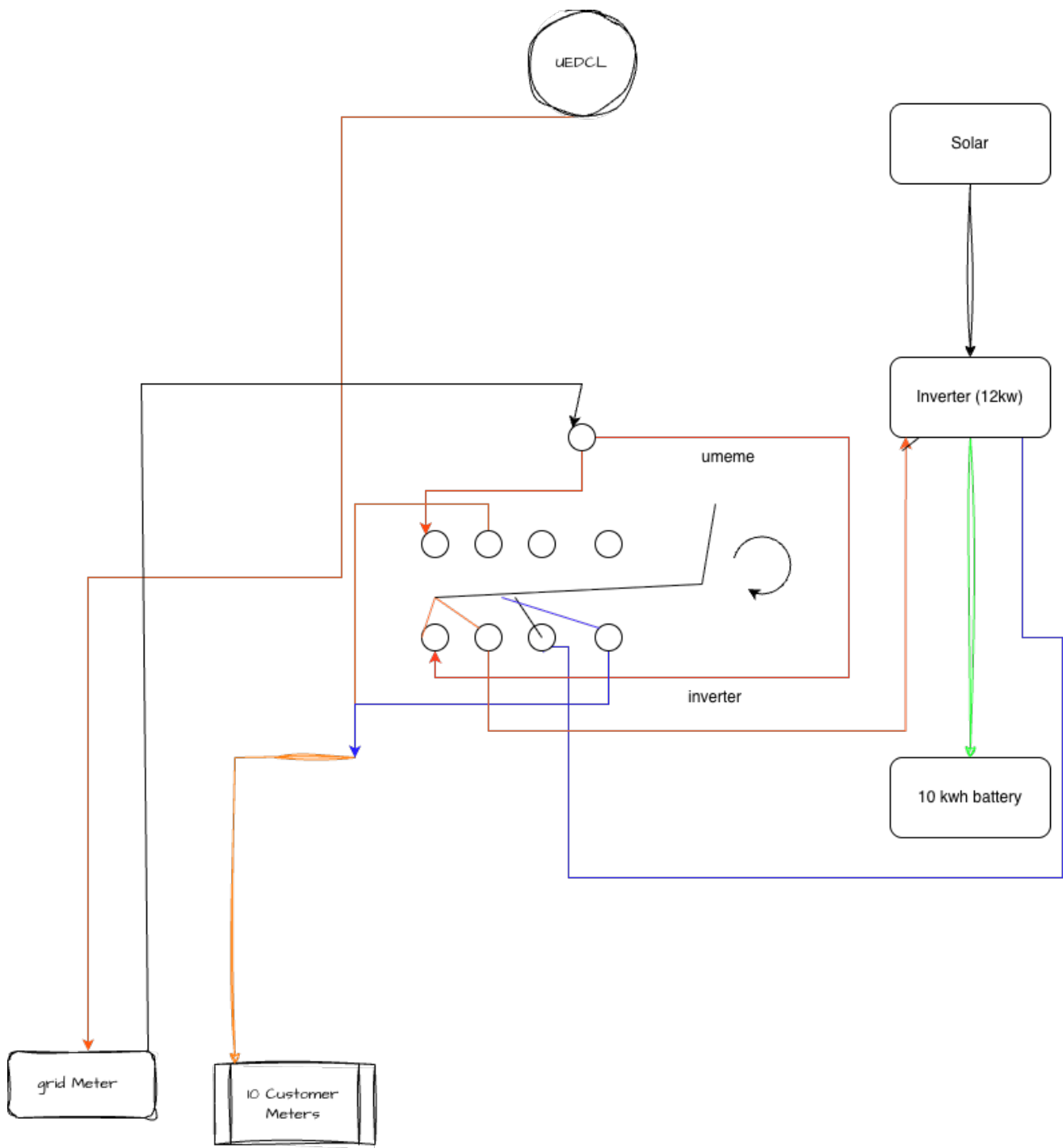
- Bulk Purchase of power: 491,760 UGX ([546.4 per kWh](#) at 3kWh per day for 30 days for 10 customers)
- Taxes (18% VAT) - Charge to customer?
- Operations: 100,000 UGX
- Real time expenses tracked [here on Open Collective](#)

Net Returns

- Sales - Expenses: **308,240 UGX**

Sezibwa Homes

Sezibwa Site Plan for Phase 2



Grid Meter UEDCL

Solar

Ownership (Membership)

This project is community owned as per the model described [here](#).

Funders

- NFE - 21,300,071 UGX
- Unallocated - 3,936,929 UGX

Workers

- NFE

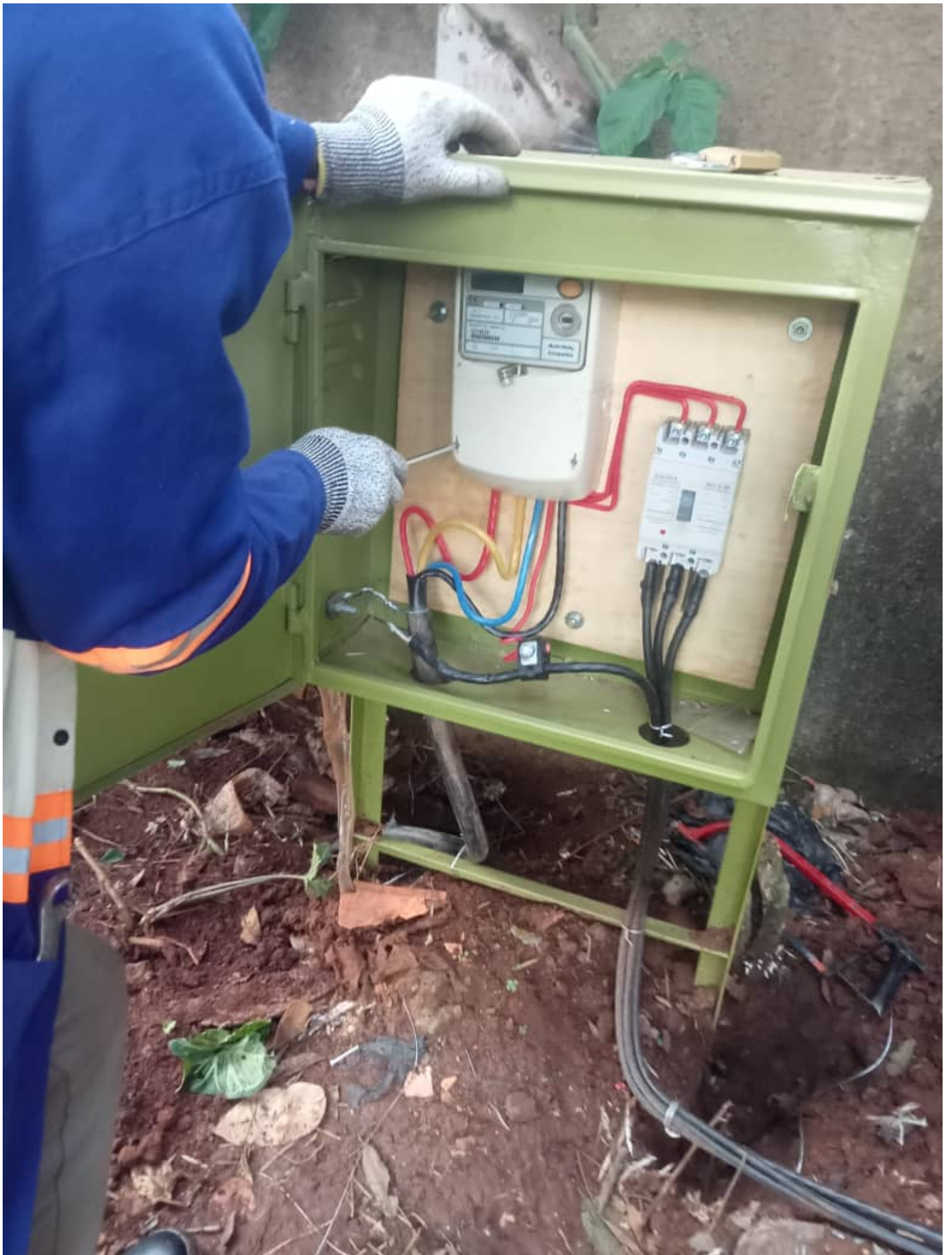
Customers

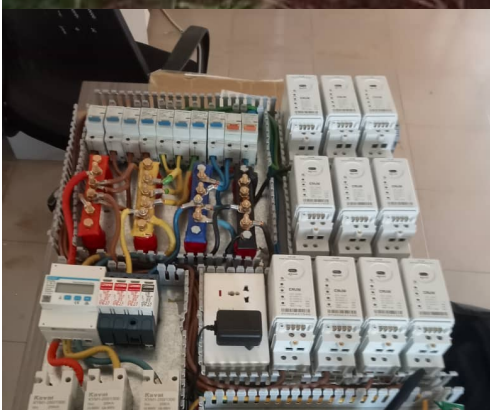
- Non Eligible yet

Sezibwa Homes

Phase 1 Pictorial











Sezibwa Homes

Inspection Document

[Inspection Document.pdf](#)

Sezibwa Homes

Welcome Note to Customers

Hello, This is Aaron from Nearly Free Energy. We provide reliable electricity to neighbourhoods like yours.

Your landlady has agreed to work with us to bring reliable power to your neighborhood. This will be done in the a 3 phase process.

Phase 1: Smart Metering:

We will switch you from Yaka to Smart Meters. This is needed in order for us to monitor when UEDCL power goes off so that we can size your neighbourhood backup correctly.

Phase 2: Backup installation:

We will install the right sized battery backup so that when UEDCL goes off, you power remains on. These batteries will be charged when UEDCL is on so that they can be ready when UEDCL is off. This backup will come on automatically so you should not notice when UEDCL is off.

Phase 3: Solar Generation:

We will install solar panels on your roof to help charge the batteries when UEDCL is off for much longer periods like several weeks.

Frequently asked Questions

If Yaka is gone, how will I pay for power?

You will be switched from prepaid to postpaid. This is the same way you pay for your water bill. You receive a monthly bill from us via SMS and you will have 5 days to pay the bill via Mobile Money, Visa or Mastercard.

How can I know how much I have used at anytime during the month?

Please contact us on our Whatsapp business account. We shall check your smart meter and share with you our usage.

What happens when I don't pay my monthly bill by the 5th day of the month?

Your smart meter will automatically turn off power to your house. Once you pay the bill, the meter automatically turns power back on.

When will Phase 1 be completed?

Phase 1 is currently in progress. We are targeting to complete phase 1 by end of this week.

When will Phase 2 be completed?

We are targetting to start Phase 2 in December 2025, I should be completed within a month depending on transport logistics of the batteries. They are being imported from supplier overseas.

When will Phase 3 be completed?

The timelines for Phase 3 are not yet determined but will likely be within 2026.

How much will I be paying for power?

The cost of power will not change. IT is determined by ERA (Electricity Regulatory Authority). You will be paying the same domestic rate you are paying today: <https://www.uedcl.co.ug/approved-tariffs>. You will charged domestic rate fees per unit you use + VAT (18%) + monthly service charge (5320 UGX). All these charges exist on your Yaka bills. The only change here is that it's postpaid not prepaid.

What if I want to still pay using prepaid token like Yaka?

At this time, our system doesn't support this payment mode. But we think postpaid is better for most customers so we think you will find it more convenient than yaka tokens.

What happens to my current yaka balance and yaka meter?

UEDCL will eventually replace that yaka meter. The timelines for this are unclear. However please contact us and share your current Yaka balance, we will credit the units to your monthly bill for next month.

How can I contact you?

You can email us on team@nearlyFreeEnergy.com or Whatsapp us on 077

Outage log

Date	Duration	Reason	Impact	Remarks
1 September 2025	8 hours	2/3 phases with voltage too low due to a broken link, this one impacted a wider area (whole of Nansana)	all 10 customers impacted because deployment was still in progress	Known to happen fairly often and could we temporarily resolved locally with a phase selector
6th September 2025	1 hour	Meter Alarm triggered for Main house	Main house only	Need to investigate reason why alarm/relay was triggered
9th September 2025	6 hours	Transmission team doing substation maintenance so they shut down the line	10/10 houses impacted.	

Phase 1.1

Goal

- Install phase selectors to increase reliability when some phases have low voltage

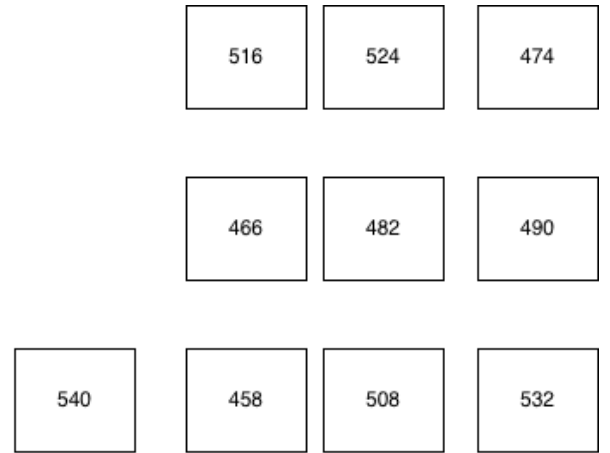
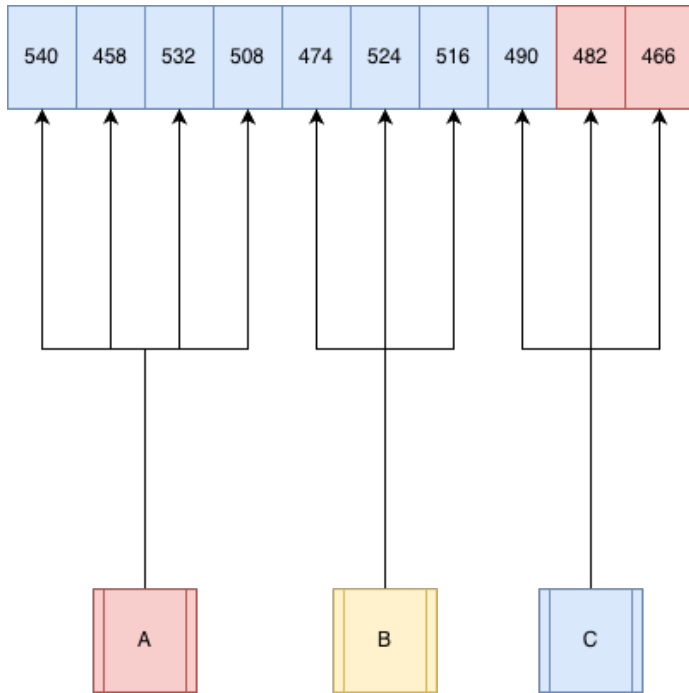
Item	Specification	Quantity	Unit Price	Amount	Remarks
PDU	80cm*60cm*25cm	1	900,000	900,000	We need a bigger PDU in order to fit the phase selectors
Phase selectors		3	300,000	900,000	
Labor		-	-		
Total				18,000,000	

Sezibwa Homes

Phase 2.0

Goal: Adding Battery Capacity. We are estimating that we need to add 15 to 25 kWh of battery capacity. We are yet to do some analysis on the consumption and outage profile for the community to determine what would be the ideal capacity.

PDU layout



Business Model

Draft: Business Models for the NFE Microgrid OS

Nearly Free Energy (NFE) Microgrid OS needs a clear model for generating sustainable revenue while enabling community energy systems. Two primary deployment models are proposed.

1. NFE-Owned Microgrid Model

In this model, NFE owns and finances the microgrid infrastructure within a community.

Infrastructure

NFE provides and owns:

- Submeters
- Battery storage
- Solar generation
- Microgrid control infrastructure running NFE Microgrid OS

Commercial Structure

NFE signs a Power Purchase Agreement (PPA) with the community, landlord, or HOA. Residents then purchase electricity directly from the microgrid.

Revenue

NFE earns revenue through:

- Electricity sales to customers
- A reliability premium for improved power quality
- Optimization of solar and battery storage to improve margins

Key Tradeoff

This model captures the most revenue but requires significant upfront capital and operational responsibility.

2. NFE Partner Microgrid Model

In this model, a partner owns the infrastructure while NFE provides the operating platform and technical services.

Typical partners include developers, landlords, housing estates, or community energy groups.

Infrastructure

The partner finances and owns:

- Solar
- Batteries
- Submeters
- Inverters and control hardware

NFE Role

NFE provides:

- NFE Microgrid OS platform
- Billing and settlement
- Monitoring and remote management
- Deployment and Operation of supported hardware

Revenue

NFE earns through:

1. **Monthly Platform Fee** - a fixed charge per connected customer
2. **Revenue Share** - a percentage of net monthly electricity sales

Maintenance

NFE maintains supported hardware such as meters, batteries, and solar systems. Costs are paid by the partner. Third-party assets (e.g., diesel generators) are excluded unless separately contracted.

Partner Revenue

Partners earn revenue from electricity sales and reliability improvements. They may also charge additional services through the NFE Microgrid OS billing platform.

Key Tradeoff

This model requires little capital from NFE and scales faster, but NFE captures less revenue per microgrid.

Strategic Use

Both models can coexist:

Situation	Preferred Model
Communities lacking financing	NFE-Owned
Developers or landlords	NFE Partner
Existing estates	NFE Partner
Demonstration projects	NFE-Owned

NFE may ultimately operate a hybrid portfolio—owning a few strategic microgrids while enabling many partner-operated systems through the platform.

Questions for Team Feedback

1. How should we determine the monthly platform fee per customer?
2. How should we determine the appropriate revenue-share percentage for the partnership model?
3. What hardware should NFE officially support and maintain?

4. Should partners be required to use NFE-certified hardware?

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
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