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Bridging the Energy Gap

Challenges and Opportunities in East Africa's Energy Transition

BY: Schizzo Thomson
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Behind the Vision

Schizzo Thomson
Founder & Managing Director – Sky Energy Africa
Operating in Malawi, Kenya, and South Africa

- Forbes Africa 30 Under 30 (2019)– Technology
- Entrepreneur of the Year (2022) – Malawi Achievers of Excellence
- Most Innovative Entrepreneur (2023) – Recognized for introducing EVs in Malawi
- Academic background in Energy & Sustainability (UK), Renewable Energy (USA), and Engineering (Malawi)
- Leads innovations in solar, battery storage, e-mobility, and digital energy systems
- Passionate about transforming Africa through customized, scalable clean energy solutions

About Sky Energy Africa
A fast-growing clean energy company committed to driving Africa's energy transition.
We specialize in:

- Solar Energy Systems
- Solar Powered Irrigation systems
- Energy Storage Solutions
- Electric Mobility (EVs) and charging infrastructure
- Digital innovations Platforms for smart energy management

With operations in Malawi, Kenya, and South Africa, Sky Energy Africa is dedicated to delivering sustainable, inclusive, and tech-driven solutions that empower communities and fuel development.

The Energy Landscape

- East Africa faces persistent and complex energy challenges, ranging from basic access to sustainable infrastructure.
- These issues hinder regional development and the well-being of communities.
- A macro-level understanding is essential for effective solutions.

This presentation explores East Africa’s energy ecosystem—unpacking critical issues while identifying transformative opportunities to create a more sustainable, inclusive future.

Energy Transition Challenges in East Africa

3 main broad categories

- Access and affordability
- Infrastructure and Technology
- Policy, Capacity and Awareness

Access & Affordability

Energy Access Gaps

- Over 80% of the population lacks access to electricity
- Rural electrification is slow, costly, and often not prioritized

Agricultural Energy Challenges

- Limited access to solar-powered irrigation, crop dryers, and cold storage
- High cost of clean energy technologies for smallholder farmers
- Inadequate awareness of energy solutions tailored for agricultural productivity

Affordability Constraints

- Upfront costs of solar systems, batteries, and EVs are unaffordable for most households
- Low household income and seasonal income fluctuations limit investment in clean energy

Financing Barriers

- Limited financing models for clean energy adoption
- Lack of consumer-friendly credit schemes or pay-as-you-go options

Infrastructure & Technology

Grid Limitations

- National grid is weak, unreliable, and overly centralized
- Ageing transmission and distribution infrastructure leads to high technical losses
- Delays in connecting newly electrified areas to the grid
- Few off-grid or mini-grid systems deployed at scale, especially in rural areas
- Inadequate logistics and supply chain networks for distributing renewable energy equipment

Technology Gaps

- Intermittency of renewables not backed by adequate battery storage systems
- Limited integration of digital energy platforms (e.g. smart metering, remote monitoring)
- Limited access to energy-efficient agri-technologies in rural farming zones
- Weak technical support and training on solar solutions for productive uses like agriculture

E-Mobility Infrastructure Deficit

- Lack of EV charging infrastructure including options for future electric agricultural machinery
- Poor internet and ICT infrastructure hinders smart energy and mobility systems and digital agri-solutions (e.g., remote monitoring of irrigation and cold storage)

Policy, Capacity & Awareness

Policy & Regulatory Gaps

- Outdated or unclear energy policies
- Limited incentives and support mechanisms for renewables and e-mobility
- Weak enforcement and implementation of existing policies

Capacity & Investment Constraints

- Low technical capacity in renewable energy and EV sectors
- Limited investment and private sector participation
- Inadequate institutional coordination and support structures

Awareness & Behavioral Barriers

- Lack of public awareness about the benefits and availability of clean energy and Evs
- Limited awareness of solar-powered solutions for agriculture and rural productivity
- Resistance to change from conventional energy systems due to misinformation or skepticism

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Unlocking Opportunities in East Africa's Energy Transition

Solutions to Fast-Track the Transition and Expand Energy Access

- Acess and affordability
- Infrastructure and Technology
- Policy, Skills and Awareness

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Expanding Access & Affordability

- Access
- Affordability

- Promote pay-as-you-go (PAYGO) solar systems for households, SMEs, and smallholder farmers
- Incentivize community mini-grids in off-grid and underserved areas, including farming communities
- Support green financing schemes with banks and MFIs for solar, agricultural energy technologies, and EV purchases
- Reduce import taxes on clean energy equipment, agri-solar technologies, and electric vehicles

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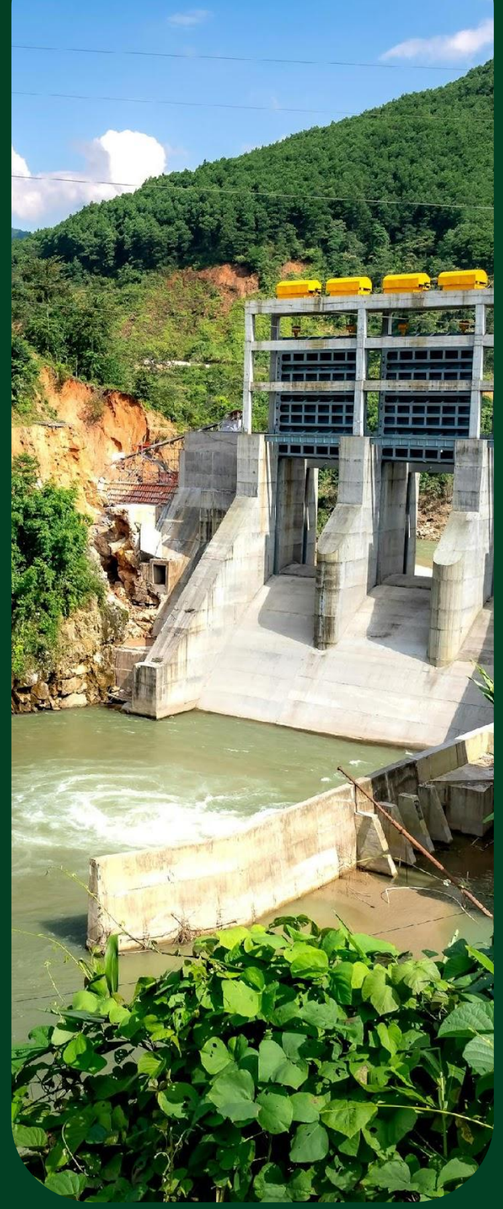

Strengthening Infrastructure & Technology

- infrastructure
- Technology

- Invest in grid modernization and decentralization to reach rural and agricultural zones
- Scale up deployment of mini-grids and battery storage solutions, including for agri-processing and irrigation
- Develop solar-powered EV charging stations in urban and peri-urban areas, with provisions for electric farm vehicles in the future
- Integrate digital energy platforms for smart load management, billing, and remote monitoring of agri-energy systems

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Enabling Policy, Skills & Public Awareness

Policy Skills Public Awareness

- Update national energy and transport policies to support renewables, e-mobility, and agri-energy solutions
- Create incentives for local innovation and entrepreneurship in clean energy, e-mobility, and agricultural technologies
- Attract investment through public-private partnerships, especially for rural and agri-based clean energy projects
- Provide technical training programs in renewable energy, battery systems, agri-solar technologies, and EV maintenance
- Launch awareness campaigns on the benefits of clean energy, EVs, and solar-powered agricultural solutions
- Promote community engagement to encourage behavioral change, productive use of energy, and local ownership

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Sky Energy Africa's Role – Seizing Opportunities

CLEAN ENERGY SOLUTIONS

- Solar home systems, mini-grids, and institutional solar installations
- Battery storage systems for off-grid and backup use
- Electrification of schools, health facilities, and rural communities

ELECTRIC MOBILITY (EVS)

- Introduction of electric vehicles in Malawi
- Deployment of solar-powered EV charging stations
- Public EV awareness campaigns and demonstrations
- Advocacy for EV-supportive policies and incentives

GREEN FINANCING

- Flexible financing plans (up to 60 months) for solar and EVs
- Pay-as-you-go models for households and SMEs
- Partnerships with banks and MFIs to expand energy access

CAPACITY BUILDING & ADVOCACY

- Technical training and clean energy skills development
- Women and youth empowerment
- Policy advocacy for renewables and e-mobility
- Community engagement and energy education programs

Sky Energy Africa’s Role – Seizing Opportunities

AGRICULTURAL ENERGY SOLUTIONS

- Deploying solar-powered irrigation systems to enhance year-round farming productivity
- Introducing solar crop dryers and cold storage solutions to reduce post-harvest losses
- Providing technical training and support on solar technologies for agricultural use
- Strengthening supply chains to distribute renewable energy equipment to farming zones

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Accelerating an Inclusive Energy Transition

Aligned with SDG 7, this calls for:

Collaboration. Investment. Technical Capacity.

Through shared networks and innovation, East Africa can unlock sustainable, inclusive energy solutions.

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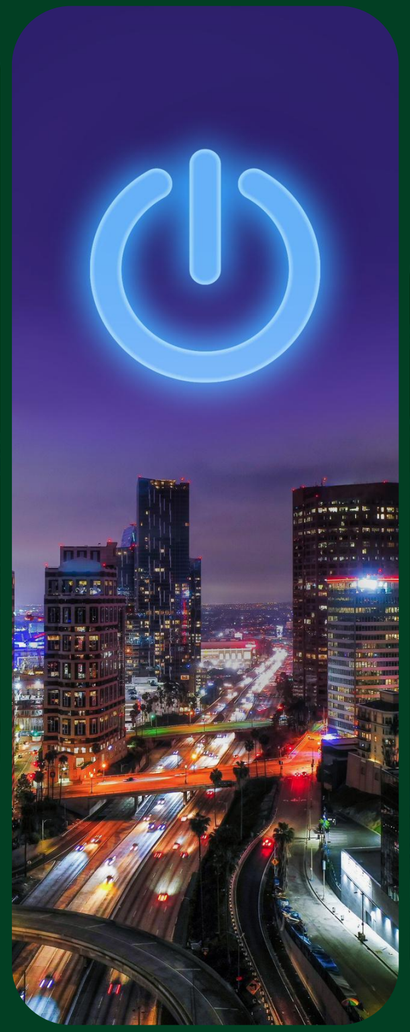
Thank You!

QUESTIONS AND ANSWERS



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