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# EXECUTIVE SUMMARY



## MISSION

Switch is on a mission to resolve energy poverty in Africa by fostering decentralised sources of modern energy.



## VISION

To have fully-electrified Africa, with interconnected and sustainable smart grids that ensures access to clean, reliable and affordable energy for all.



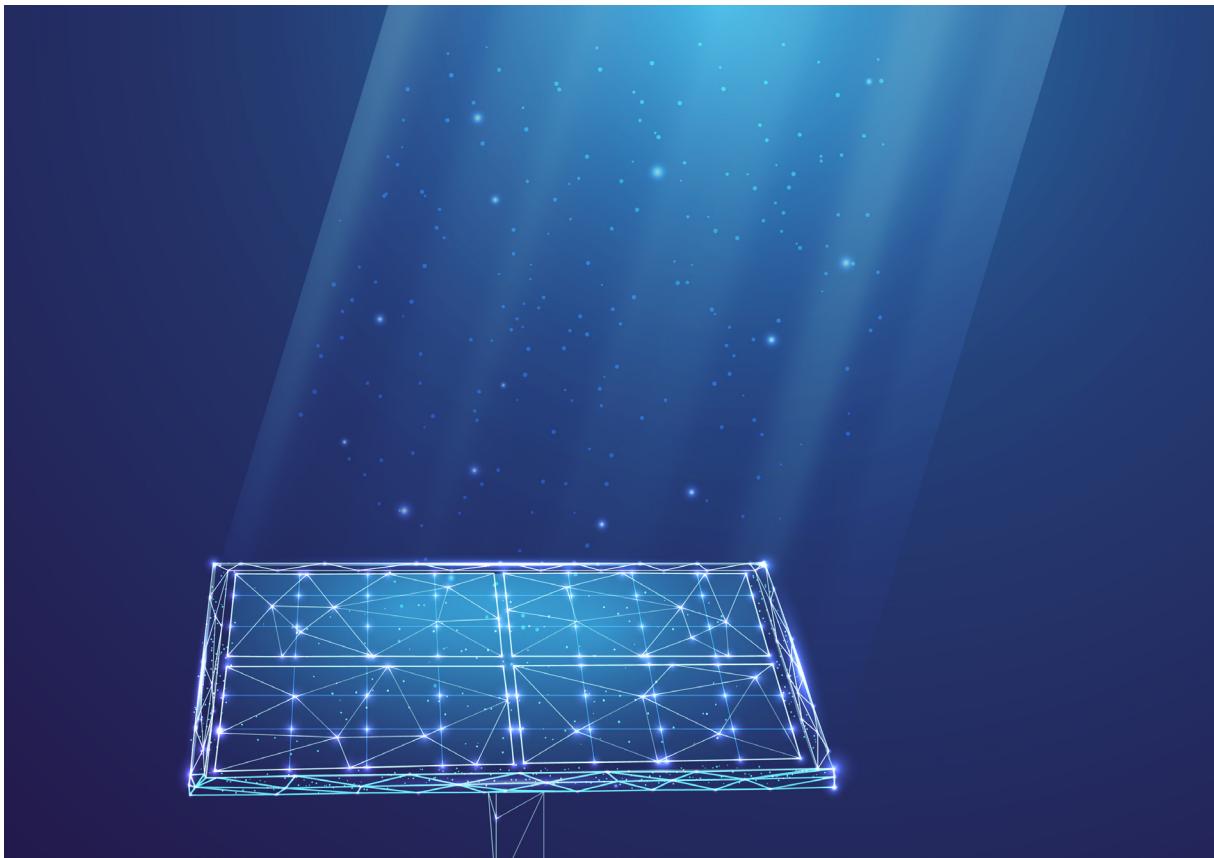
## OBJECTIVES AND DRIVES OF SWITCH

Switch Electric was formed in response to the 2020 pandemic, which dramatically increased energy demand and put a strain on Nigeria's power grid. The company's founders were passionate about renewable energies and determined to make a difference in Nigeria's electricity situation.

In many developed nations, electricity is a given, but this is not the case in developing regions of the world, especially in sub-Saharan Africa. There are currently about 92 million people living without access to electricity in Nigeria alone, and as the population continues to grow in these regions, the demand for electricity is expected to continue rising. However, the electricity infrastructure and distribution network are unable to keep pace with the demand for power.

Switch Electric seeks to provide an alternative, clean and reliable electricity service for those who are unable to access the grid, completely powered by solar. Since starting up, we have focused extensively on research, trying to identify (and solve) the biggest problems we see in our industry and have built products designed to address those problems.

# PRODUCTS AND SOLUTIONS



Switch has worked on different projects over the past 2 years. These projects include paygo rooftop projects, SMEs (Small and Medium Enterprises) projects and smart metering projects. These projects are solutions to different unique problems.

## Paygo Projects

Created to solve the issue of affordability of electricity. These projects included provision of solar setup and equipment for users for free. Revenue is generated through users electricity subscription.

## Electricity Metering

Created to solve the issue of data management in the electricity industry. These projects included equipping solar owners and utility companies with custom smart meters.

The mentioned solutions above are services that Switch offer. In the event of providing services, Switch felt the need to produce its own products that solve problems associated with providing clean energy. The first of many is the Switch custom smart meter.

### SWITCH SMART METER- MAXWELL 1.0

It is impossible to create modern electricity projects without a smart meter. A smart meter is an electronic device designed to calculate energy usage and send this data to the intended utility company. Today's smart meters send energy usage to utility companies wirelessly and these smart meters can also be used to monitor energy usage; speaking from a user's point of view.

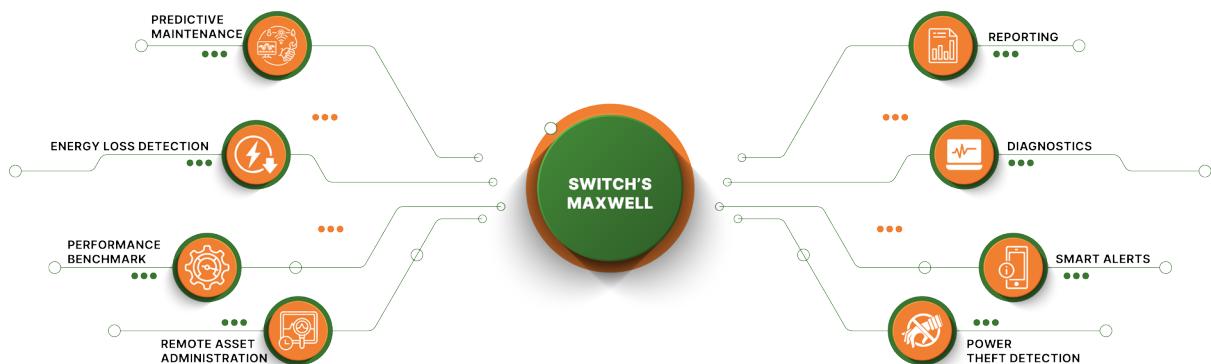
Switch believes that smart meters are indispensable in building modern electricity solutions because of how smart meters are perceived to be the moderators of smart grids ecosystem. In 2022, Switch launched its 1st gen meter; Maxwell1.0.



Maxwell- Switch's 1st gen meter

Maxwell 1.0 is an advanced smart meter integrated with blockchain technology and comes with its own mobile application. Its advancement is based on the added features integrated with the product to solve unique problems with advanced technology. Switch's 1st gen smart meter is focused on user accessibility and security. The meters send data using 3G/4G networks. Users can monitor their data and make payments using the mobile app, and all the data on the network is encrypted. The smart meters are also able to track system anomalies and send such information to the backend.

However, with the aim of building a modern electricity product, Switch identified major growth opportunities in its 1st gen meters in the following areas: communication, security and decentralisation — The data transmission mode changed from 3G cellular communication to LoRaWAN (aka LongFi); the 2nd gen meter is integrated with a crypto chip for signing cryptographic messages; and the meters make use of the w3bstream technology to create a fully functioning decentralised ecosystem. Switch 2nd gen meters are currently in the design stage.



*Maxwell's Backend and Analytics Features*

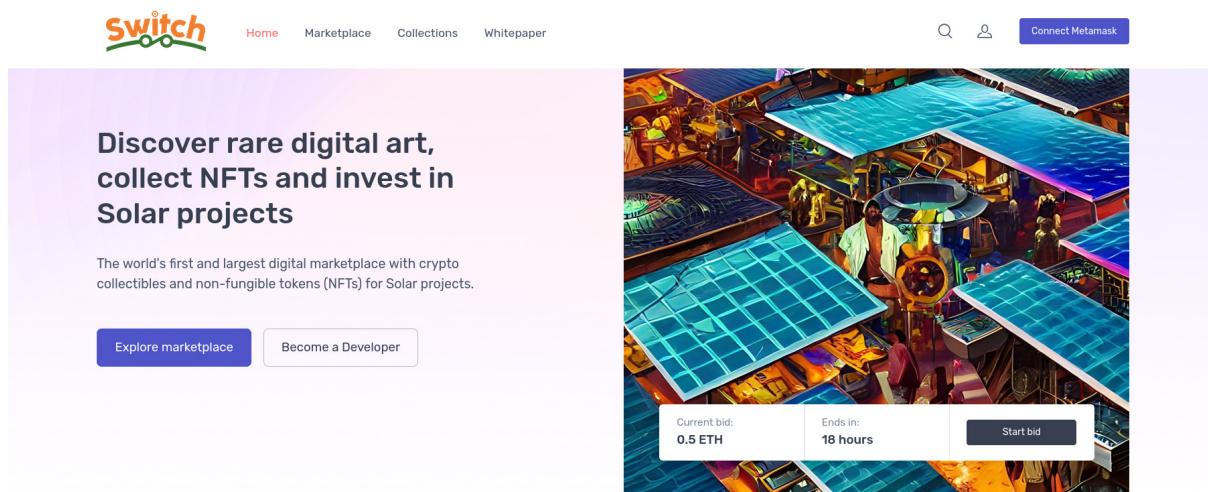
## WNSs AND WNS MARKETPLACE

One of the major blockers in the adoption of solar energy in Africa is funding. The UNECA executive secretary; Vera Songwe (according to a UN report, 2021) said it better: "There's no way Africa can build forward

better if we do not make adequate investments in energy and ensure affordable access to all". Switch built the WNS marketplace to solve the issue of funding in the energy sector of Africa. The WNS marketplace is built on the IoTeX blockchain network to include web3 investors from anywhere in the world, and solar project developers from Africa.

Every solar project on the WNS marketplace can be tagged with a unique ID that allows tokenization as NFTs. NFT holders earn revenues via the sale of electricity from their solar projects. The MachineFi logic is an XRC1155 contract on the IoTeX network and contains two token classes: non-fungible tokens (NFTs) which are proof of ownership for individual solar projects, and fungible tokens which represent 1 KWh (kilowatt hour) of electricity. The fungible tokens (WNSs) are electricity tokens minted by solar panels and battery assets. They are sold to an off taker (the consumer) at a specific tariff and then the off taker burns 1 WNS to consume 1 KWh of electricity. The production and consumption of energy is monitored by our blockchain-enabled smart metering system, which transmits data in real time to the contract, mints electricity tokens as the solar panels generate electricity and burns them when the off taker consumes electricity.

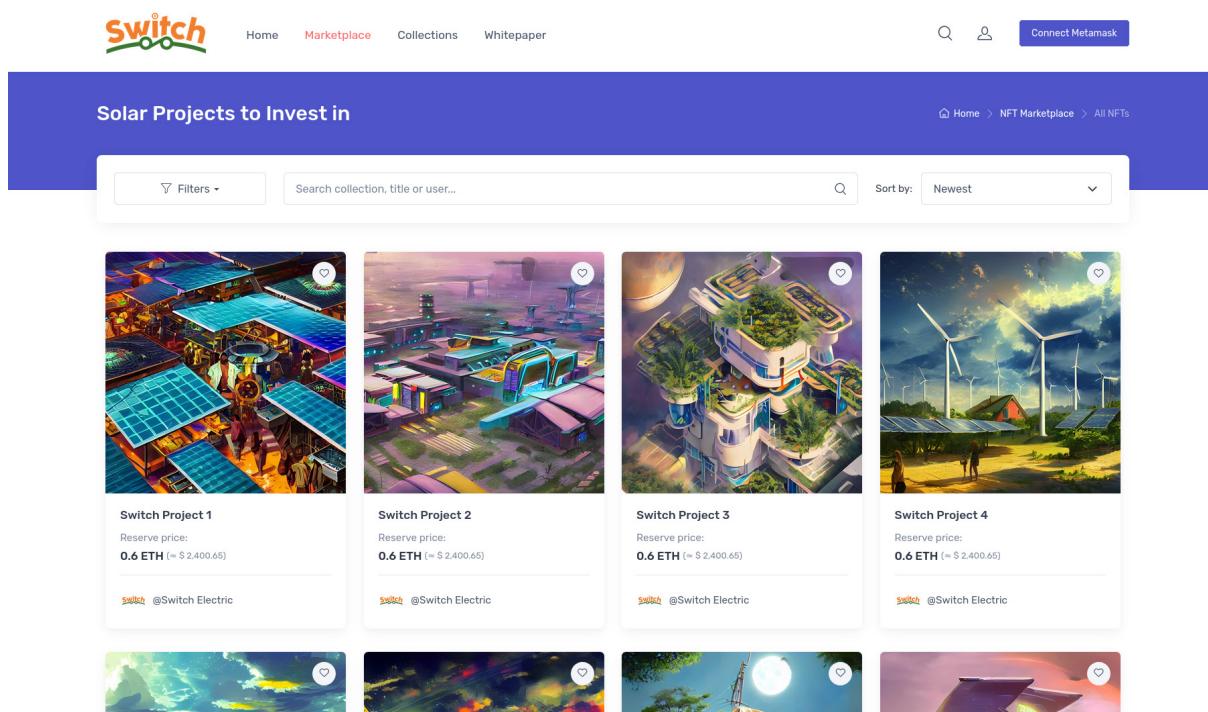
The WNS marketplace is a platform that allows solar project developers to sell their projects to social investors. Solar project developers create solar projects and tokenize them as NFTs on the WNS marketplace. Solar investors view the background of different projects and select projects that best fits their interests. These projects are bought as NFTs and attract revenues based on revenue generated from end users' electricity subscriptions. The WNS marketplace is regulated by a smart contract to increase authenticity and diminish interference.



### Recently Projects

[Explore more >](#)


The Marketplace Website Landing page



The Marketplace Website

The WNS marketplace includes 3 major contributors: Project developers, Project owners and Consumers.

### Project Developers

The project developers are companies that already provide paygo solar electricity as a service in Nigeria. Project developers contribute to the WNS marketplace by developing solar projects and tokenizing them as NFTs on the marketplace to attract project owners.

### Project Owners

The project owners are investors willing to buy projects after analysing different project backgrounds. Project owners can fully purchase an NFT to completely own the project and earn revenues from the project.

*The value of a project is subject to change depending on how much revenue is generated from the project.*

Project owners contribute to the WNS marketplace by buying solar projects.

### Consumers

The consumers are the end users of the solar projects created by project developers. Consumers are beneficiaries of the WNS marketplace. Consumers avoid the initial cost of switching to solar energy by the investments made by project owners. Consumers, however, contribute to the WNS marketplace by burning WNSs (that is by their electricity subscriptions).

# ROADMAP

