

DATA-DRIVEN ENERGY ACCESS FOR AFRICA

CLIMATE FOCUS: ENERGY ACCESS

GEOGRAPHIC FOCUS: AFRICA

INVESTMENT TYPE: GRANTS, CONCESSIONAL, COMMERCIAL

PROPONENT: NITHIO HOLDINGS, INC.

By 2030, nine out of ten people in the world without energy access will be in Africa.

Decentralized renewable energy is one of the most cost-effective ways of scaling electrification, but due in part to stagnating investments in the space, the rate of energy access is increasing at an anemic rate.

A significant barrier to scaling decentralized RE is the inability to properly assess customer repayment risk. This data gap limits distributors' ability to raise capital, especially for small and mid-sized, local providers, who have strong distribution networks but cannot affordably access debt.

Data-Driven Energy Access for Africa uses artificial intelligence to standardize metrics related to customer repayment risk, improving access to capital for distributors and efficient intermediation of credit and grants to better serve customers.

Donor capital is achieving limited success in its mission to leverage private finance. Concessional capital does not always enable distributors to reach last mile customers because without data on household ability to pay these funds are applied across a project instead of being targeted to those who need it most.

INNOVATION

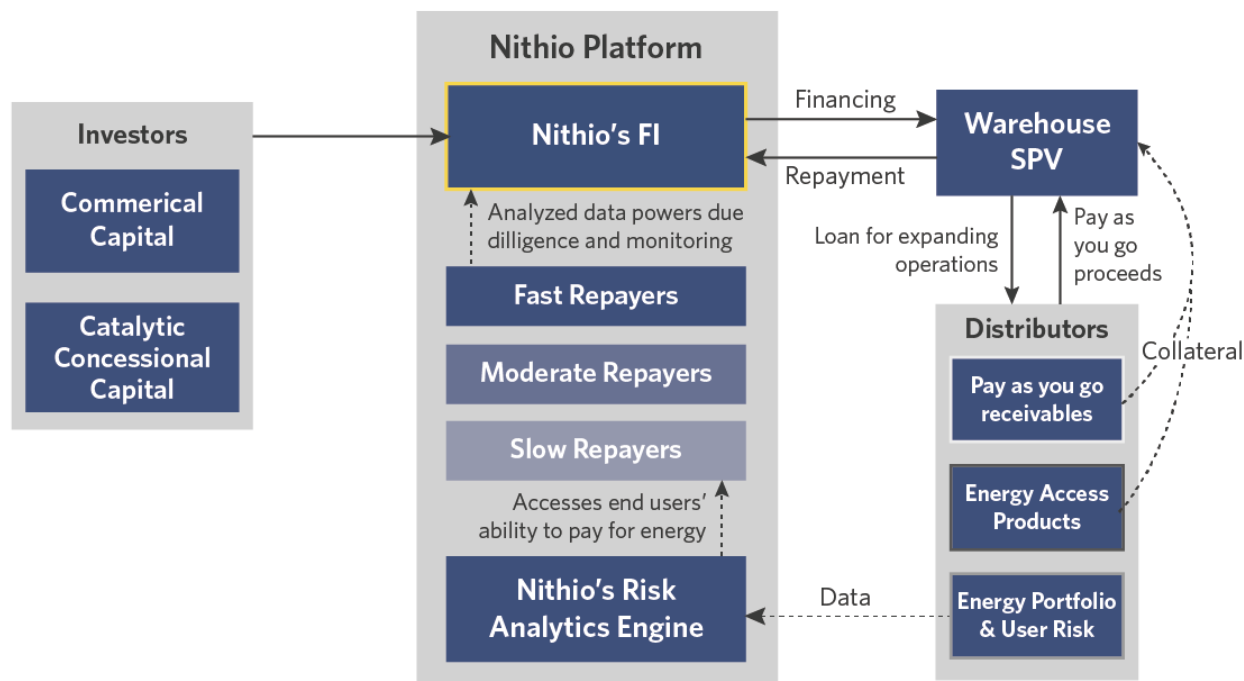
Data-Driven Energy Access for Africa offers a solution. Powered by its Risk Analytics Engine, Nithio uses artificial intelligence and demographic, geospatial, and anonymized customer data to analyze customer repayment risk within distributors' receivables portfolios. This enables better credit assessment of underlying portfolios of receivables and more effective intermediation of capital to serve those customers with the greatest financial need. By incorporating a detailed segmentation of forecasted customer repayment abilities, this approach scales investment efficiently and offers a step-change in making more rapid progress toward achieving SDG 7.

IMPACT

Proponents estimate that 700,000 households could achieve energy access by 2025 through this instrument, avoiding 90,000 metric tons of carbon emissions per year by 2025, based solely on kerosene replacement.

By 2025, the proponents estimate that 80,000 systems will replace diesel generators, reducing carbon emissions and pollution-related illness as well as powering small- and medium-sized enterprises, health, education, and other civil services. Nithio can finance both solar products for the home and productive use, including solar water heaters and clean cooking, further reducing fuel-based emissions.

This would also create nearly 25,000 jobs, enabling end users to earn USD 60 million in additional income, and provide 1 billion extra hours of study time for young students, along with many other health, education, and resilience benefits.



DESIGN

The instrument is enabled by a financial intermediary (FI) that provides loans to renewable energy distributors with advance rates based on the risk analysis of the distributors' portfolios.

Nithio sources, analyses, and segments a distributor's customer portfolio using its proprietary Risk Analytics Engine, applying and promoting standardized metrics. Combining anonymized customer repayment data from the distributors and geospatial and demographic data (including income, assets, geography, roofing quality, and many more inputs), it forecasts repayment rates for each customer aggregating these analytics for the relevant portfolio.

Customers are segmented based on estimated repayment speed and rates of default over various timelines. This enables standardized measurement of credit risk across a pool of receivables, as well as sustainable loan pricing. Receivables are not "cherry-picked": the entire portfolio is financed with a blend of capital as suits the characteristics of the end-users in the portfolio.

Using this portfolio analysis, Nithio calculates appropriate financing terms for each distributor. Nithio can also intermediate grant capital such that those end users with limited ability to repay are still able to obtain relevant products, while distributors' business models can remain viable.

TEAM



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INVESTMENT OPPORTUNITIES

TYPE	ROLE OF CAPITAL	AMOUNT
CATALYTIC CAPITAL	Provide risk mitigation and help crowd in private capital in order to scale impact	Near term: \$25 - 30 million
SENIOR DEBT	Investors seeking a lower risk and lower return	Medium term: \$100+ million
SUBORDINATED DEBT	Investors seeking a debt instrument that has slightly higher risk and return	Long term: billions
EQUITY	Investors interested in an active role in the governance of the FI, take on more risk, and deliver more impactful	

The Global Innovation Lab for Climate Finance is a public-private initiative that supports the identification and piloting of cutting edge climate finance instruments. It aims to drive billions of dollars of private investment into climate change mitigation and adaptation in developing countries. Analytical and secretariat work of the Lab has been funded by the UK Department of Business, Energy & Industrial Strategy (BEIS), the German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU), the U.S. Department of State, the Netherlands Ministry for Foreign Affairs, Bloomberg Philanthropies, and The Rockefeller Foundation. Climate Policy Initiative serves as the Lab Secretariat.