Powering Africa through blockchain crowdfunding

By Abraham Cambridge

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Africa is on the cusp of an energy revolution. We are seeing exceptional and pioneering solutions to how we generate, use, and pay for energy. There is a growing global understanding and acceptance of renewable power as a legitimate solution, and blockchain technology provides an equitable method of funding.

Abraham Cambridge, founder of The Sun Exchange

While the continent is home to some of the world's fastest growing economies, the lack of affordable and reliable energy is hindering tangible and sustainable socioeconomic progress. But what this has done is give rise to some of the world's most innovative ideas in the renewable energy sector.

Despite present issues surrounding energy access, favourable sunlight conditions and historically low solar-panel costs indicate that the cheapest and quickest way for the continent to become electrified is through solar power.

Investing through blockchain

Unfortunately, investing in Africa can be deterred by perceived corruption and currency volatility, which is a problem when getting payments into, and in particular, out of African countries can be time consuming and expensive.

So what is the solution? Many believe it lies in the advent of cryptocurrency and blockchain technology. A blockchain

allows for peer-to-peer energy microtransactions and accounting. They are an open, distributed system that can record transactions between two parties across borders in a verifiable and permanent way. Transactions can be programmed to automatically trigger under certain conditions through so-called smart contract, thus doing away with the need for a trusted intermediary in a transaction.

In 2014, I founded the Sun Exchange, crowd-selling platform that enables anyone in the world to buy and then earn revenue from solar panels powering Africa. We use a blockchain system for recording solar asset ownership and we utilise the international remittance properties of bitcoin. This allows for an autonomous and near instant and secure transfer of value of micro-payments back to the solar asset owner.

Closing the funding gap

Most solar panels in the world are installed on the roofs of commercial and industrial buildings. This is not the case in many regions in Africa, where these projects which are mostly under $1m in value are often left unfunded. To close this funding gap, we technically validate and then host these solar projects as crowd-sales. During a crowd-sale, individuals around the world can purchase the photovoltaic cells that make up the solar panels using bitcoin micro-payments. Similar to conventional crowd-funding systems, the solar project only gets constructed if all available solar cells are pre-purchased. To overcome the volatility of bitcoin pricing during a 60-day crowd-sale period, the platform tracks the price and allocates accordingly the number of solar cells to the buyer when the crowdsale is complete.

Once the solar plant is in operation, the owners of the solar cells receive a 20-year stream of lease rental income paid out in bitcoin sourced from the rental payments of the solar plant user. The solar cells are owned globally by individual digital currency users with ongoing solar powered nano-income payments made possible because of the unique properties of bitcoin.

In May, The Sun Exchange will form part of the first [[http://www.african-utility-week.com/era Energy Revolution Africa. The event will explore the transitioning energy landscape in Africa, where green innovations and disruptive technologies allow for the quick rollout of integrated microgrid energy solutions.

ABOUT THE AUTHOR

In 2008, Abraham completed an MSc in the Science of Climate Change at the University of East Anglia, UK. Since then he has established several businesses that use solar energy as a means for creating positive changes in society. In 2010 he pioneered utility-scale solar in Britain and in 2012 a business he co-founded, The Renewable Energy Co-operative, was nominated 'International Co-operative of The Year' in the United Nations Year of Co-operatives. In 2014 he moved to South Africa to identify opportunities in the emerging African solar energy industry.