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Innovation: Two billion people worldwide currently live without electricity. Bringing electricity to remote rural areas around the globe would not only transform economies, it would transform education, healthcare, agricultural production, and overall livelihoods. For over 20 years, Fabio Rosa has pioneered systems to provide electricity to hundreds of thousands of impoverished rural Brazilians, establishing the standard for low-cost electricity transmission by reducing costs to consumers by more than 90 percent. Fabio initially worked with state-owned electricity companies to spread his distribution system to a million low-income people; when the utilities were privatized in the late 1990s, they stopped supporting the spread of Fabio's alternative system. He then responded with a joint for-profit and nonprofit venture - STA and IDEAAS- to deliver affordable solar energy solutions to the same underserved market with an innovative micro-leasing model, while addressing sustainable economic and environmental development issues.

MODEL

Market Need

About 25 million people in Brazil still do not have access to electricity. When Fabio was appointed Secretary of Agriculture of Palmares in southern Brazil in 1983, he realized that lack of electricity was making farming significantly less productive and causing people to leave rural areas in pursuit of a better life. Seventy percent of the rural population of the region lacked electricity. Using inexpensive materials and simplified construction, Fabio reduced electrical distribution costs from \$7,000 to \$400 per household. However, after the privatization, electricity companies preferred to serve the existing "on-grid" cities - an enterprise that they deemed more profitable than pursuing low-cost rural electrification. Fabio's most recent venture, therefore, aims to provide alternative sources of energy to all underserved consumers, leveraging IDEAAS's deep understanding of rural households' needs.

Products/ Services

STA is providing rural customers with electricity services and not merely solar panels. The "Electricity Now" program offers a complete leasing package. The basic solar home kit includes four fluorescent lights, a 12-volt electrical outlet, all necessary wiring, a battery and panel, as well as a free battery change after three years of service. Two upgraded versions are also available for a small television, radio or a water pump, and for a cell phone charger. The basic package rents for about \$10 a month - the same amount that people are spending on nonrenewable forms of energy - in addition to an installation fee of \$150 that can be financed through the first 12 months of the lease. The service contract that can be terminated if the customer gets connected to the grid. Based on market research that demonstrated that only 70 percent of the off-grid population could afford STA solar energy services, the Quiron project was launched as part of IDEAAS to serve the most poor 30 percent. This integrated project aims at increasing local incomes by providing solar powered energy to rural households, increasing agricultural yield through electric fencing and microtechnologies, and implementing profitable nature conservation strategies like sustainable forest management and organic agriculture.

Current and Five-Year Impact

With his initial project, Fabio helped bring electricity to 42 municipalities and 25,000 households. In 1996, the state of São Paulo launched a \$240 million project replicating this approach and providing electricity to one million people. Two years after the project's implementation, one in every three beneficiaries had returned from the city to resume living in his or her former rural area because of the rising living standards and the opportunity for new job creation brought by electricity. Half of the beneficiaries had acquired water pumps, and by irrigating their crops were able to increase their income by 400 percent within a year. Seventy percent had electric showers, 83 percent had refrigerators, and 80 percent had television. Beyond the economic and qualitative impact on people's lives, solar energy eliminates the risk for unhealthy and dangerous lighting products and reduces carbon emissions. STA has worked with solar photovoltaic energy since 1992 and installed 2,000 solar systems throughout the country. It finished the first market test of renewable energy distribution services in May 2004, and already 40 solar systems have already been installed; the two-year plan is to install 1,000 more in the Rio Grande do Sul State, serving 4,000 people. Based on the recent government's announcement of an "Electricity for All" program, STA revised its commercial targets and started to explore new market segments like shop owners. Concerning the offering, Fabio is also planning to expand the range of products that are compatible with the 12V system to further increase economic opportunities and living standards.

Operational Infrastructure and Delivery Mechanism	<p>Fabio's venture includes a nonprofit arm, IDEAAS, and a for-profit arm, STA. STA's unique business model is registered as intellectual property in Brazil. With the goal of continually looking for cost-effective ways to deliver quality services and benefit the local economy, STA is manufacturing and assembling some components and sourcing materials as much as possible in Brazil. Certified solar panels however are sourced from UniSolar US and British Petroleum. Installation and maintenance services as well as sales of electrical devices are outsourced to local electricians. Being exposed to default risk, STA performs credit checks on new customers. If a family is too poor to afford the solar home system or is experiencing economic difficulties, it can benefit from IDEAAS' services.</p>
Marketing and Promotion	<p>In order to develop a solution adapted to low-income people's needs, STA conducted extensive market research to survey families on what they spent on non-renewable energy sources and then piloted the program. STA is using radio ads, local stores, local champions, and word of mouth to promote services. An example of STA's fine understanding of consumers is evidenced by the small plastic saint that is distributed with solar kits. In a religious country, such a symbolic token creates an incentive for people to regard the battery with respect. In collaboration with the local municipalities, STA is able to identify off-grid households.</p>
Human Resources	<p>STA's and IDEAAS's staffs include a social psychologist for market survey and specialists for local communication, development strategies, business management, electrical/electronic engineering, and service monitoring.</p>
Strategic Partners	<p>Fabio received training support from both McKinsey for business plan development and U.S.-based Solar Development Foundation who provided initial support to STA through consultancy, initial funding in grants, and soft and commercial loans. The Triodos Bank continued the partnership to provide STA with funding. USAID Energy Program/Brazil ("Productive Energy Consortium") and Winrock Brazil are also strategic partners to achieve model replication at the national level. Together with them, STA is currently developing an MOU with the electricity provider Coelba (state of Bahia). Alliances with electricity companies are critical to STA's success. The Quiron Project is a partnership between IDEAAS and the Hórus Institute for Environmental Conservation and Development, a citizen sector organization founded by Ashoka Fellow Silvia Ziller. Supporters of the project include Avina and the Canopus Foundation.</p>
Strategy and Funding to Scale	<p>STA's goal is to break even within four years and generate a 20–30 percent financial return to investors. Year 2005 will be spent raising funds to launch the venture: \$650,000 for STA and \$600,000 for IDEAAS. Within two years, IDEAAS is also planning to create a Center for Decentralized Generation, Business Models, and Sustainable Management for training and capacity building of solar energy enterprises around the world. It is estimated that one billion of the two billion in need of electricity in the world could afford solar energy at commercial rates.</p>
Entrepreneur's Biography	<p>An agronomist by trade, Fabio was elected an Ashoka Fellow in 1989. His project was the model for the implementation of low-cost rural electrification projects by the National Bank for Economic and Social Development and is spreading to Argentina, Paraguay, Uruguay and South Africa. Fabio also received a number of awards including the "Tech Museum of Innovation Award" and "The World Technology Award". He is currently president of REMOVE - the Brazilian NGOs network for renewable energy. Fábio Rosa is also an Avina Leader and a Schwab Fellow.</p>