

REToolKit Case Study

Soluz, Inc.

1. Company Description – Fee for Service

[Soluz, Inc.](#) was incorporated in the U.S. in 1993 with the mission to promote and support the development of rural energy delivery companies—REDCOs—to meet the vast need for electric service in rural areas using solar home systems and other stand-alone solar power systems.

Soluz has been a pioneer in developing and operating rural energy systems businesses in off-grid markets of developing countries, and the company has created two operating subsidiaries, one in the Dominican Republic (Soluz Dominicana) and one in Honduras (Soluz Honduras).

Soluz is a majority shareholder in both subsidiaries and provides them with business planning, market assessment, capital sourcing, management training and tools for operations and system quality.

Soluz's two model REDCO affiliates are valuable "commercial laboratories," serving as key industry benchmarks for unsubsidized rural energy delivery.

1.1 Soluz Dominicana

Soluz Dominicana was formed in 1995 as the first pilot REDCO, and its structure and operations were designed to have broad replicability in other markets. Soluz's rural energy delivery operations offer three payment choices: cash, credit and fee for service/rental options.

Under the fee for service option, individual customers pay pre established monthly fees to rent photovoltaic system packages for lighting, radio, television and rural telephony; the company is responsible for after installation maintenance. With the low up front costs, the low monthly fees and the easy terms of the rental option, the vast majority of Soluz's customers elect this option.

At the end of 2002, Soluz Dominicana was providing energy services to about 3,500 households and small businesses. More than 1,500 of these customers are served on a rental basis, and cumulatively Soluz had provided more than 100,000 customer-months of unsubsidized rental service to customers, which is equivalent to a 5.5 year average customer life to that point.

Soluz Dominicana also sells PV systems and components to dealers and to institutional clients—government agencies and non-governmental organizations. It operates from a national office in the Dominican Republic's industrial city of Santiago, and three regional service centers.

Using the same rural delivery infrastructure, Soluz is beginning to expand the range of services it offers. Soluz developed an energy system for a multi-service rural store, which provides valued services and generates new customer revenue.

Soluz Dominicana installed a solar powered cellular payphone in a rural store to pilot the concept. The company plans to expand its cellular payphone concept to meet broader rural information, communication and other needs, such as adding email capacity and solar powered refrigerators in rural stores.

1.2 Soluz Honduras

Soluz Honduras was established in 1998, as the second pilot REDCO, offering retail energy service in the northern and northwestern parts of the country through cash, credit, and rental options. It also sells systems wholesale to dealers elsewhere and serves government and non-governmental institutions in health and education projects countrywide.

At the end of 2002, Soluz Honduras was already served 2,000 customers—some 10,000 people—most on a rental basis, even in spite of the devastating impact of Hurricane Mitch. The company continues to expand operations to improve the quality of life in rural areas through stand-alone PV systems.

Soluz Honduras is based in Honduras's industrial center, San Pedro Sula and operates two regional service centers.

2. Investors

Soluz has attracted several private sector investors since its inception.

Institutional investors, who provide debt and equity to Soluz, Inc. and its subsidiaries, include: Calvert World Values International Equity Fund, a member of the Calvert Group (U.S.), Corporacion Financiera Arribiental (Costa Rica); E+Co (U.S.); Environmental Enterprises Assistance Fund (U.S.); EPS Finanz (Switzerland); Gaia Kapital (Germany); Global Partners Fund (U.S.); the International Finance Corporation's Small and Medium Enterprises program; Rockefeller Foundation (U.S.); Swiss Reinsurance Company (Switzerland); and the Solar Investment Fund of Triodos Bank (Netherlands).

3. Business Development

Soluz, Inc. seeks to establish partnerships within select large-scale rural energy projects worldwide.

Soluz provides REDCO-development services and tools based on the unique energy service delivery experience of Soluz's two subsidiaries. These cover both business and technical aspects of the rural energy services using stand-alone solar power systems. Business systems for financial modeling and management, market assessment, and operations

- Financial projection software and modeling services
- Revenue tracking software and adaptation support
- Market understanding software and support (including GIS)
- Operations manual and adaptation support

Technical systems for system performance analysis, customer usage tracking, technical training, and quality control

- Data acquisition systems (Soluz DAS1 and Soluz MiniDAS™)
- Reliability tracking/service call database software system
- Technical training manual and training implementation
- International quality control compliance procedures

4. Lessons from Soluz's Operations

Soluz has been a pioneer in the application of its fee-for-service or rental approach, and it has been able to significantly penetrate the rural market without the application of any subsidies.

Soluz operates in countries where rural credit programs are poor or nonexistent, unlike the cases of Grameen (Bangladesh) and Selco (India, Sri Lanka, Vietnam). This makes the fee-for-service approach the only realistic option for many households, especially those with low levels of disposable income.

However, Soluz "competes" in the context of grid based rural electrification in which grid extension is typically highly subsidized and capital is generally available for grid extension at low interest rates and over long terms. To achieve universal coverage in dispersed areas, some type of smart subsidy may therefore be required, particularly in for the poorest households.

Transaction costs for Soluz operations have been high, a characteristic typical of rural energy delivery based on stand-alone systems. As a pioneer, Soluz often faced lengthy transactions for small investments and this raised the risk profile for potential investors in the company. Also, as a small company, Soluz generally lacked access to grant resources to help "buy down" those transaction costs.

Trailblazing costs have been high for Soluz, which has been among the leaders in its field from its inception, and it has had difficulty attracting investors for types of operations that have never been tried before. The difficulty in accessing new investors or new types of customers as the company expands into new types of services or operations has been a substantial hindrance to its expansion.

5. Conclusion

To date Soluz has provided energy services to more than 6000 customers, reaching an estimated 25,000 to 30,000 individuals. Rental customers served amount to more than 3000. Other clients include schools and clinics.

Soluz's REDCO fee-for-service business model is significantly more affordable than cash and credit sales, and it had lead to market penetration rates of up to 50% in an unsubsidized environment.

Soluz's two REDCO affiliates are valuable "commercial laboratories," serving as key industry benchmarks for rural energy delivery. The services and tools developed in these Soluz operations are applicable to large-scale REDCO operations globally.

The Soluz experience demonstrates that rural energy services from stand-alone solar energy systems can be a sustainable business. However, high transaction costs due to the small size of the company, its innovativeness, and its need to provide rural credit continue to be a challenge as Soluz seeks to expand its investor base.