

REToolKit Case Study

Solar Electric Light Company (SELCO)

1. Overview

SELCO is a private US company with US, British, German and Swiss shareholders. The Company is headquartered in Chevy Chase, Maryland, and has three operating subsidiaries in [India](#), [Sri Lanka](#) and [Vietnam](#). The Company is currently undertaking expansion efforts in Africa, Asia and Latin America.

SELCO was founded to:

- Provide clean, reliable, safe, and affordable solar power systems to households and businesses that have no other means of acquiring electricity;
- Provide the highest level of service to its remote and dispersed customers;
- Combine profitable operations with sustainable social, economic, and ecological development;
- Enhance the quality of life and improve productivity throughout rural communities in the developing world by replacing dangerous, dim, and unhealthy kerosene lamps and candles with electricity made from sunlight;
- Contribute to the reduction of greenhouse-gas emissions¹ by substituting solar power for carbon fuels.

SELCO subsidiaries assemble systems and manufacture electronic components locally in their workshops (compact fluorescent lights, lamp fixtures, electronic charge controllers, and small DC appliances).

SELCO subsidiaries create a variety of jobs and contribute to local economic development by hiring from the local community and offering technical and management training.

In addition, SELCO home lighting systems contribute to income generation for household crafts people and enhance productive use for education and communication. Financing the end customer is SELCO's biggest challenge, and it works with numerous rural banking networks, agricultural societies, and micro-credit institutions to provide credit for its customers. Recovery rates are over 99%--defaults are rare.

SELCO also utilizes consumer finance mechanisms for purchase of SHS by off-grid rural households which have been instituted by The World Bank, the Global Environmental Facility and the International Finance Corporation.

The success of SELCO and its subsidiaries is proving that there is a market for household electricity at the bottom of the economic pyramid where governments are often unable to deliver electricity and extending the grid is too costly.

2. SELCO India

SELCO India, the Solar Electric Light Company, is a private company formed in 1995 to sell and service solar electric home lighting systems. Today it operates 25 centers in

¹ Each solar home system offsets global warming by reducing more than five tons of carbon dioxide, through reductions in kerosene usage.

India and provides energy solutions to off-grid and underserved households and businesses in states of Karnataka, Kerala and Andhra Pradesh. SELCO India has brought reliable, affordable, and environmentally sustainable electricity to 35,000 homes and businesses.

SELCO provides its customers with a range of stand-alone energy systems from solar lighting and electricity, to clean water and wireless communications, with a focus on generating productive use by its customers.

SELCO provides its customers with complete packages of product, service and consumer financing, all under one roof.

3. Business Model

SELCO has developed a business approach that combines high-quality products with the service and financing needed to make them accessible to developing country customers. SELCO markets its products as “life-changing technologies” because of the power they provides families to change their own lives, and they showcase a variety of success stories from people whose lives, and livelihoods, have been transformed through SELCO solar lights.

3.1 Infrastructure development

SELCO India recognized from the start that the solar electric home lighting business requires a solid and efficient human infrastructure for marketing, distribution and service. SELCO identified and trained rural men and women to introduce, supply, service, and finance solar electricity systems. In addition, it refined and articulated its delivery system according to three principles:

- Provide reliable, affordable, and convenient solar PV products
- Provide customer’s the necessary information, installation, training, and financing
- Offer other products and services in order to develop a sustainable sales and service center

The sales and service infrastructure that SELCO has created has been effective because it provides one-stop-shop for families and businesses seeking reliable electricity.

SELCO is headquartered in Bangalore, India, and presently has 165 employees in its operating subsidiaries in Karnataka, Kerala and Andhra Pradesh.

The company owns and operates a decentralized network of 25 sales and service centers. Each center is directly managed a local service center manager.

The SELCO local management teams have a strong local presence and can quickly and efficiently respond to its changing customer needs, market conditions, local partners and all other aspects of day-to-day operations.

SELCO serves customers across many sectors, from off-grid rural households to urban families whose grid connections are unreliable. Other customers include small farmers, businesses and institutions.

3.2 Three essential business elements

To create a one-stop-shop for families and businesses seeking reliable solar PV based energy systems, SELCO has organized its business to provide three essential elements.

- **High Quality Products:** SELCO provides packaged (and branded) systems and related appliances that they assemble from components provided by various suppliers. It offers systems to provide lighting, electricity, water pumping, water

heating, communications, computing, entertainment, and small business appliances. It also design larger commercial/industrial systems to meet specialized applications.

- **Local Service:** SELCO meets its customers where they live. With its extensive network of service agents, it is able to provide at-home design consultation, installation, training on proper system use and after-sales service on all products sold. The local service centers strive to develop long-term relationships with the customers.
- **Consumer Credit:** SELCO helps its customers finance their purchases. It has partnered with rural banks, leasing companies, and micro-finance organizations to provide the necessary credit to our customers.

By using high-quality products SELCO can its cost to provide ongoing service and maintenance, and with high quality products and ongoing service, SELCO customers are able to obtain financing for their purchases.

To assure its customers have access to credit at the door-step, SELCO has partnered with commercial banks, regional rural banks (also called as grameen banks), and credit cooperatives. SELCO's pioneering work in rural India encouraged many of the above mentioned financial institutions to create a separate line of credit for solar systems.

Over 90% of SELCO customers utilize credit through its finance partners when purchasing systems. Credit terms are based on the credit source and the local situation. Interest rates range from 5% to 14%, and customers typically put between 10-25% down, and pay the balance over three to five years.

4. SELCO India Accomplishments and Lessons

SELCO has grown from a solar service pioneer to a sustainable, successful sales-and-service company. Since 1995, SELCO has:

- Built network of 25 retail sales and service centers in India
- Developed a dedicated, motivated, and skilled workforce of more than 160 men and women
- Installed more than 30,000 solar PV systems
- Provided lighting and electricity to more than 150,000 people
- Achieved profitability on annual sales of \$3 million
- Built the capabilities to expand into new products and services

SELCO has been successful because of a number of fundamental business strategies:

- Maintaining a single-minded focus on its customers. It is not a dealer or distributor tied to a manufacturer.
- Concentrating on building the necessary infrastructure for sustainable and scalable sales and services delivery.
- Developing and refining a model for bringing consumer credit to its customers.
- Focusing on systems that empowering its customers by improving their productivity and allowing them to pursue income generating activities.
- Expanding the products and services offered through its infrastructure to enhance the sustainability of its service centers.

5. Investors

SELCO's initial funders included the Rockefeller Foundation and Solar Energy Light Fund, a US-based non-governmental organization that promotes solar lighting in the third world.

E+Co provided an early equity investment in SELCO for working capital to expand its operations, establish its headquarters in Bangalore and add marketing, finance and administrative management personnel.

E+Co also provided a bank guarantee to allow SELCO to access funds for direct consumer financing. Working with IREDA, SELCO accessed World Bank/Global Environment Fund (GEF) dollars for on-lending to end-users. These funds--the first World Bank/GEF funds for solar home systems--were guaranteed through an E+Co account in a local Indian Bank.

SELCO also received a conditional grant from Winrock International (WI), provided under the USAID Renewable Energy Commercialization project.

As a result of SELCO's success in India, its parent SELCO International, has been able to raise more than \$5 million of capital to support the expansion of SELCO India and its sister companies in Vietnam and Sri Lanka.

6. SELCO Sri Lanka

7. SELCO Vietnam

SELCO Vietnam was established in 1997 to produce, sell and service solar electric lighting systems in Vietnam. With 6-7 million rural, unelectrified households, it is estimated that about 3 million of these will not be connected to the electric grid within the next ten years and can afford a PV powered energy system.

SELCO initially partnered with the Vietnam Women's Union (VWU), a nationwide quasi-governmental social service organization, to undertake this electrification program. SELCO provides financial and technical assistance for management, administration, training, consumer credit, marketing, and technical areas, and the VWU is in charge of system installation, troubleshooting and service, and revenue collection. With over 11 million members nationwide, the VWU it is a key part of the district and provincial governmental structure, and will serve as the link between the national distribution strategy and on-the-ground operations.

While SELCO continues its partnership with the VWU, it also provides direct installation, service and revenue collection services through its four service center locations.

With funding from the New Zealand Ministry of Foreign Affairs, E+Co provided an equity investment to support the finalization of SELCO-Vietnam's business plan and start-up. Following this work, SELCO secured a \$750,000 loan from the International Finance Corporation's Small and Medium Enterprise Program. These funds have enabled SELCO to put in place four rural Solar Service Centers, employing more than 25 local staff. SELCO was also able to secure a short-term credit facility from Citibank in Vietnam.

The Solar Electric Light Company (SELCO), launched in 1997, was named in honor of the Edison Electric Light Company founded a century earlier. SELCO's mission is to

bring electric power to people who don't have it--an untapped worldwide household power market of 400 million families.

SELCO, with 250 employees, has built a solid rural power delivery infrastructure in three countries: India, Sri Lanka and Vietnam. Specializing in wireless solarelectric power systems for rural and peri-urban customers, 80% of the Company's business is selling and installing 2, 4 and 6-light Solar Home Systems (SHS) powered by 35Wp to 75Wp solar Photovoltaic modules produced by BP Solar, Siemens Solar and United Solar. SELCO manufactures its own system components (compact fluorescent lights, lamp fixtures, and charge controllers). The rest of the Company's revenues are generated from sales of solar water heaters, solar streetlights, custom and institutional solarelectric systems, and direct-current appliances.

Today, SELCO has 32 branches (Solar Service Centers) operated by its three subsidiaries, SELCO-India, SELCO-Sri Lanka and SELCO-Vietnam. In future, it plans to launch at least seven new subsidiaries. SELCO is also franchising its delivery system and business model in association with local partners in various countries. The Company has installed over 13,000 SHS on a purely commercial basis.