

# Simpa Solar Home Energy Systems

## Business Context

Worldwide, approximately 1.6 billion people have no access to electricity and another 1 billion have extremely unreliable access. Incomes are informal and irregular, and most households earn less than USD 10 per day. Many households spend up to 30 per cent of the income they earn on inefficient and expensive power sources such as kerosene for lanterns and batteries for flashlights. Simpa recognised that, over time, the total expenditure for off-the-grid energy sources – such as kerosene or batteries – is actually higher than expenditure for energy from a sustainable source: solar power.

## Challenges

Affordability: Over a 10-year period, households spend USD 750-1,500 on kerosene, candles, batteries and phone charging – enough to pay for multiple high quality solar energy systems. But low-income families cannot afford to pay the entire USD 400 upfront cost of a high quality SES, and traditional lenders won't lend to households without a dependable and steady income.

## Solution

Simpa's solution to overcoming the initial cost and finance barriers – making clean energy 'radically affordable' – is embodied in a novel concept they call Progressive Purchase™. Each Simpa SES is sold at an affordable upfront cost to the consumer without the requirement of fixed payments, as required by standard lease or installment plan financing models. Simpa's pricing model seeks to achieve three essential aspects of affordability: a low upfront cost, an affordable total cost of ownership, and flexibility in how consumers can purchase valuable goods over time.

Simpa looked to ThoughtWorks to develop the critical revenue management software and SMS communications technology that would be keys to success. ThoughtWorks assembled a team in its Bengaluru, India office for the project, as Simpa planned to pilot its product in Karnataka. Together with three project members from Simpa, and a small team from ThoughtWorks, they focused on a design that would deliver necessary functional features but which kept the entire implementation as simple as possible in order

ThoughtWorks' Social Impact Programme team was able to design and build an essential piece of the complex technology we needed to execute on our vision, in just 12 weeks.

Michael MacHarg  
Co-Founder, Simpa Networks

to start the pilot in a very aggressive timeframe. The team applied Lean and Agile principles – every feature had to withstand scrutiny for business necessity and be considered against alternate and sometimes non-technical, solutions. Technologies: Java | Kannel SMS Gateway | Apache Tomcat | MySQL

## Key Message

Our Social Impact Program is helping Simpa bring clean, sustainable electricity to the developing world. We helped this for-profit social enterprise achieve their vision to bring clean and sustainable energy to people living off-the-grid in the developing world. Simpa saw an opportunity for a market-priced product that joined a new pricing model to high quality solar home energy systems, and we built the technology infrastructure powering this.

Simpa's solution, Progressive Purchase™, makes solar energy as affordable as kerosene and other dirty energy sources across the developing world enabling the switch to cleaner forms of energy.

## Benefits

**Speed:** In a record 12 weeks, Simpa's new revenue management system, in support of the Karnataka pilot, was released at the end of March 2011. Design, coding, testing and deployment for this custom SMS-enabled revenue system were completed, from scratch, in 12 weeks.

**Making it work:** The new system fulfils a key part of Simpa's plan to transform energy expenditure into an asset purchase for billions of people at the base of the global economic pyramid, and is now in commercial use for the Indian households targeted in the pilot.

## About ThoughtWorks

We at ThoughtWorks are wholly devoted to the art and science of custom software. We make it, and we make our clients better at it. Our bottom line is to design and deliver software fast and predictably. Doing enterprise-scale software is tough, but the returns to those organisations that can deliver – on target – are tremendous. Our products division, ThoughtWorks Studios, makes pioneering tools for software teams who aspire to be great. Its products, Mingle®, Go™ and Twist® help organisations better collaborate and deliver quality software. Our consulting services are focused on optimising IT organisations, technology, testing, continuous delivery and experience design. With these service offerings, we endeavour to improve delivery capability, innovation and competitive advantage with the adoption of Agile/Lean project and organisational practices, across all aspects of software development and delivery. We constantly work with the CIOs to reduce cost and improve the bottomline.

ThoughtWorks employs over 2,000 professionals to serve clients from offices in Australia, Brazil, Canada, China, Germany, India, Singapore, South Africa, Uganda, the United Kingdom and the United States.

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