Solar Induction Stove- for rural communities

Uttarkashi, India
Delhi, India
Saurabh Mehta
Project Stage:
Start-Up
Budget:
$1,000 - $10,000
Website:
http://kyrion.biz/energy-simplified

- Solar Energy
- Climate change
- Rural
- Social enterprise

Project Summary

Elevator Pitch

Concise Summary: Help us pitch this solution! Provide an explanation within 3-4 short sentences.

With increasing popularity of induction cooking, soon we will look back on cooking with gas as we today look on cooking over biomass stove. But there still remain 3 billion people who continue using biomass, we want to help them leapfrog the technology transition and move to clean induction cooking.

About Project

Problem: What problem is this project trying to address?

3 billion people globally use biomass for cooking that burns inefficiently, generate smoke, and produce emissions that cause global warming – carbon monoxide, carbon dioxide, and soot. Inhaling the smoke leads to respiratory illnesses and death. The labour of collecting firewood consumes hours, especially of women, which is dis-empowering, and an unproductive use of time. It leaves no time for income-generating, or other alternative activities.

Solution: What is the proposed solution? Please be specific!

Since most of the population that uses dirty biomass for cooking also are the ones with no or highly unreliable electricity, a regular induction cooker wont help them solve their cooking energy problems. Our technology is an induction stove, which has a battery system that gets charged with a 60W solar panel (coupled with a power booster to increase net energy output). The battery holds enough charge to prepare 3-4 meals everyday for 6 people. Our focus has been on making the product highly energy efficient so that the supplemented solar system could be affordable. We believe that once the rural community start using this there will be a direct impact on their health and overall development, besides the overall environment conservation.

Impact: How does it Work

Example: Walk us through a specific example(s) of how this solution makes a difference; include its primary activities.

The June 2013 floods in Uttarakhand (India) destroyed houses and shops with everything that used to be there. Working with a relief agency we came up with a program of providing 12 flood affected households with a solution where people could be free from the tedious task of collecting wood or arranging for LPG cylinders for cooking food and focus on finding new livelihood opportunities. Solar induction stoves came as the most effective product to solve the problem. At first people found it difficult to use, but with no other convenient option, they spent time with the product and came out as experts in just a week's time and none of them got back to using LPG or firewood for cooking and thus saved a lot of time from fuel collection.

Sustainability

Marketplace: Who else is addressing the problem outlined here? How does the proposed project differ from these approaches?

Clean cook-stoves replacing traditional cook-stoves are promoted by many development organizations to reduce fuel consumption and harmful emissions. Deforestation and GHG emission though reduced, continues. Government schemes are trying to overcome these ill effects by giving LPG connections at a subsidized price, which is very expensive for the government and not a sustainable solution, besides, GHG emission and danger of fire still exists. The proposed solution which is developed for global use, completely eliminates all the above mentioned issues in a cost-effective manner.
About You

Organization: 
Energy Simplified (Un-registered)

First Name 
Saurabh

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About Your Project 

Organization Name 
Energy Simplified (Un-registered)

Organization Country
DL, Delhi

Country where this project is creating social impact
UL, Uttarkashi

How long has your organization been operating?
Less than a year

The information you provide here will be used to fill in any parts of your profile that have been left blank, such as interests, organization information, and website. No contact information will be made public. Please uncheck here if you do not want this to happen.

Your Solution

Founding Story: Share a story about the “Aha!” moment that led you to get started and/or to see the potential for this to succeed.

During our clean cook-stove promotion drives in rural India, we noticed some people using induction stoves. Though the equipment was liked, the irregularity of power in these parts reduced the utility. Demand for solar system to overcome this was raised; which at the start seemed unviable. However, after our rigorous research we could develop a highly energy efficient induction stove, powered by a solar charged battery, but at a price which end customer wouldn’t directly want to pay. Our team was demotivated till the motivating statement from our senior mentor (also a user) “Telephone cables were never laid in this part of India, people moved directly from postal service to hi-tech mobile phones, the story can be repeated.

Select Sector(s): To which of Unilever’s categories of sustainability does your solution apply?
Greenhouse Gases, Smallholder Farmers.

Measurable Impact

Audience: Who have you identified as your customers/recipients and why? How will you get your solution to them or engage them in your initiative?

Everyone using biomass/LPG is our customer. At the end state we would want to establish a distribution cum financing channels to support the deeper penetration of the products, but for now we will target specifically on-
1) Pregnant women: who should not travel to collect firewood & provide unhealthy environment to the fetus, 2) Government schools: in rural areas to provide a healthy environment to students, and 3) Disaster affected population so that they could focus on new livelihoods.

Impact: What is the impact of the work to date and expected impact in the future?

We have developed a cookstove that our potential clients would like to buy and use at their homes. Once the clients start using it, they will see huge impact in their own lives, since out product unlike any other alternative doesn’t reduce but completely eliminates - firewood requirement, indoor air pollution and GHG emissions. Besides, the product will help them in maintaining a clean and safe environment inside the home for themselves and for the children. So far we have deployed 12 products in disaster affected areas and another 8 units in rural communities who are observing huge direct benefits from the stove. We are confident of bringing down the cost to 45% by next year, and reach a milestone of 1000 units/month and continue expanding. With such volumes in the radar we are sure to create huge environmental and social impact among the rural communities across the globe.

Growth, Finance & Leadership

Scaling the Solution: How do you intend to scale your activities over the next two years (e.g., reach new markets, diversify solutions, etc.)? What will make this possible?

Unlike any other clean cooking alternative we are confident about impressive economy of scale for our product since its highly electronic in nature. We are expecting to bring down the production cost to 40 % by the next 6 months and by another 25 % by next year, by setting up of an assembly
line manufacturing unit. We are simultaneously building our commercial sales & marketing channel by partnering with various micro finance agencies micro grid facilities and existing rural distribution channels. Besides, to get a larger access to the market we will diversify our product range and will develop less expensive solutions that could be charged with grid power, and another version which could be charged with either grid power or solar power.

**Financial Sustainability: What is your business model to ensure financial sustainability?**

Looking at the potential target group size, we are keen on reducing product cost by investing in an assembly line manufacturing and more R&D. Until we reach that scale, we are sustaining our operations by focusing on niches markets (development agencies, border security force, public schools etc.) who can afford the current pricing. Additionally we are keen on getting Carbon offset benefits for the product to make the product more affordable.

**Experience: Please provide examples of any previous entrepreneurial initiatives you have pioneered.**

I have been working in the energy access sector for the past 4 years where my focus has been on finding solutions for providing clean lighting and cooking options for the rural population in India. Enterprise was setup which provided clean power to 7000 households through 8 solar micro grids, and also marketed micro energy products like, clean cook-stove, solar home systems and other solar solutions through a network of village entrepreneurs.