



The Appropriate Technology Collaborative

## Mayan Power and Light - Sustainability, Empowerment and Opportunity

Website: [www.apptechdesign.org](http://www.apptechdesign.org)



Learning About Electricity and Solar Power

### Background:

The Appropriate Technology Collaborative (ATC) was founded in 2007. ATC is a nonprofit organization whose purpose is to design, develop, demonstrate and distribute new technologies that improve the quality of life for low income people worldwide. ATC works in collaboration with students, volunteers, professionals and local community members to create technologies that are culturally sensitive, environmentally responsible and locally repairable in order to empower people and create opportunity. We have created designs and programs that improve the quality of life for tens of thousands of people, and through our open-source design library, we serve thousands more.

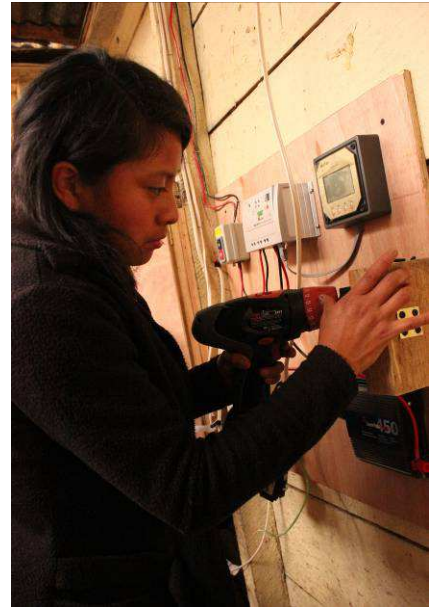
Since founding The Appropriate Technology Collaborative we have created or improved dozens of designs in our *Technology Development Program* including: a Solar Vaccine Refrigerator; a Treadle Pump design for rural farmers; solar LED lights to replace kerosene lamps; a bio-charcoal maker for water purification; inexpensive insulation for rural and slum city housing; an "extremely affordable" house that costs the same as a tent; and a clean water supply for a rural village of 4,500 residents. We have brought hundreds of volunteers, students and professionals to learn from working with local experts in Guatemala, Nicaragua and India. Our open source designs have been downloaded over 7,000 times in 43 countries.

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Learning Carpentry Skills



Installing Solar Hardware

### Mayan Power and Light:

In 2013 we started *Mayan Power and Light (MPL)*, a program to teach young Guatemalan Mayan women about electricity, circuits and solar power. The goal of MPL is to start woman-owned for-profit solar businesses and to expand into other Latin American and Caribbean countries. We incubated our first majority woman-owned solar business, SEA Solar, in 2014. Through SEA and our previous solar work, we have provided solar power and light to 5,000 - 10,000 people in the western highlands of Guatemala.

Mayan Power and Light has provided hundreds of Guatemalans a science, technology, engineering, and mathematics based curriculum. We have trained 12 women mentors to teach the MPL program. MPL business incubation services are provided by a group of professionals who have years of experience starting successful sustainable businesses in Guatemala.

### Results:

- **Thousands of people** awaken each morning to **Mayan Power and Light's solar lights**: breathing cleaner air, seeing with better light and are more productive than ever before.
- **Tens of thousands** of the world's poor have improved their health and wealth from our appropriate technology **designs** and **opportunity-creation programs like Mayan Power and Light**.



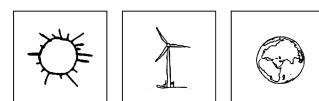
Teaching About Electricity and Solar Power

### **The Future of Mayan Power and Light:**

With the success of *Mayan Power and Light*, we are expanding the program to provide the essential technologies of solar lighting, clean cookstoves and water purification. Each technology has been extensively tested in Least Economically Developed countries and have been shown to improve health and economic well-being in low-income families. Studies show that solar lighting improves household productivity and educational advancement for low-income children who can now study at night. With consistent clean drinking water, low-income families experience better nutritional health and save money spent on health care from water-borne parasites. Clean cookstoves greatly improve indoor air quality and reduce respiratory diseases common among low-income women and children. We can provide these essential technologies at an affordable price using a novel weekly payment program. The combined benefits provided by bright lights, clean air and potable water provide an avenue to break the vicious cycle of poverty.

Over the next 3 - 5 years we will head up continued business incubation services for *Mayan Power and Light* and expansion of the program. We will add two new MPL businesses each year, first in Guatemala and then we have been invited to provide the MPL program in Ivory Coast, Chile and Peru. Each new MPL based business will serve 5,000 - 10,000 people per year.

Mayan Power and Light would not be possible without our collaborative partners, Starfish One-by-One and The Rotary Club of Ann Arbor, Michigan.



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Opportunity by Design