



Appropriate
Technology
Collaborative



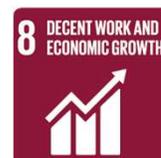
PODER Y LUZ
MAYA

Mayan Power and Light

Uplifting Communities Through Women's Entrepreneurship

Connecting Communities with Appropriate Technologies

Mayan Power and Light (MPL) was founded in 2011 and is based in the Western Highlands of Guatemala where an alarming 75% live in poverty. MPL spreads awareness and access to three appropriate technologies through an innovative educational program producing social businesses in rural areas.



Three Proven Technologies

Designated Essential Technologies, solar power, clean cookstoves, and water filters reduce carbon emissions, increase family productivity, and reduce respiratory and intestinal diseases (leading causes of death for women and children in Guatemala).

Solar Power

Economic Impact:

Access to bright solar LED lighting enables reading and doing household and business-related activities at night. In Guatemala candles and kerosene to light homes at night costs \$4 per week. After 30 weeks solar power has paid for itself and in 5 years a small solar power system saves a family \$900.



Environmental Impact: 1.6 billion people without electricity can leapfrog to solar power reducing demand on fossil fuels and limiting greenhouse gas emissions. One home installing a solar energy system can have a measurable effect on the environment.

Health Impact: Unlike candles and kerosene, solar energy is non-polluting. Burning kerosene causes irritation to the eyes and skin, eye strain from insufficient illumination, and severe respiratory illness from poor indoor air quality.

Clean Cookstoves

Economic Impact:

Clean cookstoves reduce wood fuel consumption by up to 60% compared to their traditional counterparts.



Environmental Impact: Each clean cookstove saves between one and five tons of carbon dioxide emissions per year depending on fuel source and stove design. Clean cookstoves reduce Black Carbon by over 50% and save trees from becoming firewood.

Health Impact: Cooking fires are the leading source of air pollution in rural households. Replacing traditional stoves and cooking fires with clean cookstoves reduces pulmonary diseases that affect women and children disproportionately.

Water Filters

Economic Impact:

Less intestinal parasites mean more productive work days. Reduced expenditure on wood fuel used to boil water, leaving money free for other household expenses.



Environmental Impact: Reduced use of wood fires to boil and sanitize water. Reduced pressure on local wildlife and ecosystems due to reduced deforestation.

Health Impact: Reduced incidence of waterborne diseases and diarrhea, lifting the burden of disease on people's livelihoods.

Innovative Distribution Model

By creating triple-bottom-line businesses instead of one-time solutions, we are forming efficient distribution pathways that serve marginalized people beyond the scope of project funding.



1

Women's social businesses provide distribution pathways by networking with the community in indigenous languages.



2

All-inclusive training model addresses personal, regional, and cultural barriers affecting women.



3

Local, long lasting solutions reduce Last Mile costs in isolated regions.



Encompassing Program Strategy

MPL partners with 12 municipal governments and 4 nonprofits to identify qualified women leaders in the region.

MPL trains these women in a newly revised curriculum empowering them to establish lasting environmental and social businesses.

The entrepreneurs will participate in year-long practical business workshops to earn an income while educating the public and distributing low-cost green technologies.

Program features for the **2020-2021** include:

- Introductions to Essential Technology and Social Ventures to approximately 75 women from 6 Departments, with a goal of selecting 12 women to undergo more intensive training;
- These 12 social entrepreneurship trainees will give public workshops on solar power, water filters and clean cookstoves in their native languages to over 200 rural women with Municipal Women's Offices;
- Present Essential Technologies at town fairs, market days and community meetings, reaching approximately 1040 – 1440 families;
- To earn public confidence in these solutions, technologies are demonstrated in rural communities by bringing solar electricity to unelectrified schools, as well as water filters and stoves for school kitchens;
- Training sessions on business basics such as bookkeeping, sales/marketing, plus the development of public speaking and emotional resiliency skills necessary for successful entrepreneurs;
- Technologies on consignment, overcoming the greatest obstacle to women's participation in business by keeping them out of debt;
- On-going guidance and support for every entrepreneur, plus incorporation seed capital for top performers.

In 2022, we will complete manuals for replication of our Mayan Power and Light Essential Technologies and Social Ventures program and expand to Honduras, El Salvador, and Belize. Wholesale models are also planned for the countries of Ghana, Côte D'Ivoire, and Cameroon in Western Africa by 2025.