

Ilumexico

Mexico
Manuel Wiechers



Organization type:

nonprofit/ngo/citizen sector

Budget:

< \$1,000

Website:

<http://www.ilumexico.org>



- [Climate change](#)
- [Green business](#)
- [Education](#)
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- [Renewable energy](#)
- [Microfinance](#)
- [Youth leadership](#)

Project Summary

Elevator Pitch

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

Ilumexico is a rural electrification project through solar energy and efficient LED lighting. It seeks to replace the use of kerosene and other fuel lamps through a microcredit to purchase the solar system. It has a social scheme where light is a platform for new productive projects that promote development and is all based on student volunteers and connecting universities with the private sector.

About You

Organization:

Ilumexico

[Visit website](#)

Section 1: About You

First Name

Manuel

Last Name

Wiechers

Website

<http://www.ilumexico.org>

Country

Section 2: About Your Organization

Is your initiative connected to an established organization?

Yes

Organization Name

Ilumexico

Organization Phone

Organization Address

Dresde 2, Col. Juarez

Organization Country

How long has this organization been operating?

Less than a year

Your idea

Country your work focuses on

Innovation

What makes your innovation unique?

It is unique in two senses: first we developed a solar controller that optimizes the use of the system for conditions in Mexico and also allows different functions for lighting that makes it last longer and makes the system very cheap and of good quality. It helps extend the batteries life span controlling the charge and the discharge cycles. It also has three different lighting settings that permit different activities depending on the needs. We have also incorporated light and presence sensors to optimize the systems that can be used in less impoverished areas. The system is completely scalable and can include from 1-15 LEDs depending on the needs. We are also innovating in how we are creating a connection between university students and rural areas for the light to only be a platform for new projects and student ideas based on community necessities appear. We also combine a social scheme where we include microcredits to cooperatives of women and promote small entrepreneurs within communities. We have a unique platform that puts together universities, NGO's, private enterprises and local communities. We have 50 approved student volunteers by universities, have received recognitions and prizes from different private entities, are starting to build a network of NGOs in different states in Mexico and have connections with government entities where we wish to enter social programs and revolutionize the way government projects are led with our social scheme and the crucial connection with all the actors involved. We are developing new products for both rural and urban impoverished areas such as hydroponic modules for people to produce their own fruits and vegetables at a very low cost with the same scheme. We look at ourselves as a platform to introduce technologies to the bottom of the pyramid (BOP) and promote student involvement in these areas to create an important BOP market in Mexico.

Do you have a patent for this idea?

Impact

Tell us about the social impact of your innovation. Please include both numbers and stories as evidence of this impact

By substituting the use of pollutant, hazardous and expensive sources of lighting for a clean, more efficient and better quality technology you are causing a great social impact.

First, healthwise, hazardous fumes are not emitted within the household preventing the risk of respiratory problems.

You also increase the security of the household because if a kerosene lamp is tipped over it can cause a fire, the solar system has no risk of any kind.

Environmentally you are replacing a very contaminant fuel with a clean technology, therefore each installation is a very small grain of sand towards alleviating global warming. (10 W systems replace around 0.20 Ton CO2 emitted each year by kerosene burning)

Economically, you are replacing expenditures on other expensive sources that represent about 15-25 % of their earnings. With this, once the system is paid, you create a larger purchasing power for them to embark on new projects and improve their living conditions.

Our scheme also seeks to promote social development: Most of the social programs in Mexico are donation based and don't incentivate community members to become agents of change or be part of their development. By changing this scheme we are promoting a sense of responsibility and involvement within the community members, showing them that their efforts are rewarded with benefits for them and their surroundings, and we also motivate them to be involved in the change in their community, this way you incentivate them to come up with new ideas and get involved and realize that the more they get involved in their change, the more benefits they receive, therefore you break the paradigm that they should be sitting around waiting for somebody to help them.

On the other hand, we are motivating people from universities in the cities to get involved in helping their fellow countrymen that did not receive the same opportunities that they did. We are seeking to plant a seed in every one of our volunteers to become social entrepreneurs and to dedicate their efforts to create sustainable businesses that have a social aspect and can benefit both their personal economy and their society.

There are a series of projects in India and Africa of similar characterist

Problem: Describe the primary problem(s) that your innovation is addressing

The main problems we are addressing are the lack of electrification and the way government deals with its social programs.

Around 8 million people in Mexico (even though the official number is 3 million) are lacking of access to electricity and must use other sources of lighting such as equipment with batteries together with kerosene and gas lamps which are expensive, hazardous and pollutant. Studies indicate that from 15-25% of a families income is spent in these sources of lighting, this spending is going to be replaced with our system and with the saving the families can pay the credit they receive.

We also seek to address a more pressing social problem which is rural development. Through the installation of our solar systems, we wish to demonstrate and help individuals living in these communities that the light we are giving them is useful for them to extend their days, change their activities and allow themselves to perform other tasks that can be beneficial for them. Through our student volunteer teams, we wish to create new projects based on community needs and give the economic resources for these projects through a community revolving fund: this fund works because once we purchase the lanterns that we manufacture with donations, the credits that people are paying go into these funds and students with community members can propose their project and have access to the funds to develop new projects. We also wish to connect products that these people make with stores in the cities where we can eliminate intermediaries that usually abuse the producers in rural areas and pay them a better price for their work.

Another problem we address is climate change because kerosene and other lighting sources are extremely pollutant. We estimate that each 10W system will replace around 0.2 tons of CO2 per year: A small number if viewed individually, but as the project grows the impact grows and it demonstrates that private initiatives are also important in this issue.

Actions: Describe the steps that you are taking to make your innovation a success. Include a description of the business model. What might prevent that success?

We have entered various competitions and business accelerators. We are currently in a 10 week programme where we are getting legal and financial advisory and are getting moderate funding to kick off the project correctly. We are also finishing another competition called the Cleantech Challenge where we received various advisories with experts in the field of green business.

We have also been just accepted to the "Avancemos" project with Ashoka that will be of great use in the network with other NGO's and community

work.

We are constantly updating our technical specifications and working on optimization of our system and looking for new technologies to apply in the communities we work in. We are currently performing various social and economical viability studies in different communities to start the implantation of our system and schemes.

Our business model is divided in three different stages that are best described in the next question. However the general model includes a study in the community, the introduction of the technology with a community leader, and obtaining valuous contributions from or "ambassadors" of each zone or region which is usually an NGO interested in distributing our systems and implanting our scheme. Then the microfinance entity issues a loan to the individual (or particularly the group of individuals that sign a collective contract) receiving the system. We continue to give follow up and social help to the communities we work in and assure that the program is sustainable in three aspects: Social, economical and environmental.

This success can be prevented or can be staggered by the lack of cultural sensibility when wanting to introduce a new technology to rural communities where customs are a very important part of daily life and it is difficult to change their mind frame. We are prepared for this with different manuals and strategies to make the project not a technological imposition, but a program where the individuals realize the uses they can give to the artificial light. Another issue can be the lack of trustworthy alliances with NGOs and or the microfinancing entities.

Results: Describe the expected results of these actions over the next three years. Please address each year separately, if possible

Our first phase of the project has already started and we hope to conclude at the end of this year. This phase is the implementation of the pilot projects and adaptation and perfecting of the project. We will be working in 5 different communities in different states, installing between 50 and 100 systems and documenting our results and progress to be able to have a more solid presentation of the project. In parallel, we are creating a network of "ambassadors" which we will launch in the beginning of next year where we will perform our project through these channels and start to incursion in other markets such as the urban poverty belts around the big cities, a problem very common in Mexico. After a year or working directly or indirectly with these projects we wish to enter fully with government initiatives and look for alliances or ambassadors in central america, so at the beginning of year three we expect to have a big client base and distribution network where we will be doing installations continuously and benefitting the most amount of people possible.

How many people will your project serve annually?

101 1000

What is the average monthly household income in your target community, in US Dollars?

Less than \$50

Does your innovation seek to have an impact on public policy?

Yes

If your innovation seeks to impact public policy, how?

We seek to influence, as we mentioned before, the way government programs in Mexico are seen. We seek to show how our scheme is more sustainable and in the long run promotes development in a more integral way than social programs that just give without expecting any compromise by the receiver. We wish to participate, and have currently contacted most government entities in different sectors and prove that any project should consider an integral scheme where you promote community involvement and social programs that of course can be subsidized by the government, but that are also sustainable in a social and economical way. Socially you promote development in a more significant manner and economically with the credits and return on the investment you make in the communities each new year the government has to invest less money for the same amount of projects or systems. It is our vision for us to transform the way government policies are oriented towards social programs in a more integral, development-oriented and socially sustainable manner.

Sustainability

What stage is your Social Enterprise in?

Operating for less than a year

Does your organization have a board of directors or an advisory board?

Yes

Does your organization have a non monetary partnerships with NGOs?

Yes

Does your organization have a non monetary partnerships with businesses?

Yes

Does your organization have a non monetary partnerships with government?

No

Please tell us more about how partnerships could be critical to the success of your Social Enterprise

Partnerships are crucial in our success because to reach rural communities it is very important to have various distribution channels and alliances with different entities that have already broken the resistance to change and have the confidence of the people in the community. Partnerships with organizations in different states area also a key aspect because the logistics and transportation costs to reach these remote communities are reduced and made simple by having an "ambassador" in the region you are working. Later on in the project to make it grow and become the great social development platform we are hoping it to become we must concrete partnerships with diverse government entities that will help finance and subsidize the system and help us grow our distribution system.

Furthermore, we seek to create partnerships with youth NGO's in other countries to replicate our model and distribute our system with our business model and social scheme.

We would like to learn more about how your initiative is financially supported. Please explain your business plan/revenue model

We have started with personal funding and we have currently received support from a scholarship from a Mexican bank that allows us to have a financial backup strong enough to operate for our first 6 months and perform our first 4-5 pilot projects. We have also received funds and support from a local NGO that has given us a space to work and funds to develop our market strategy along with our finance and legal aspects. It is a 10 week incubation process with various conferences and workshops that will help us grow and develop our project. We are currently looking for

venture capital to gain funds to create the necessary infrastructure for a production line and to grow our distribution channels and cover initial operating costs.

Our revenue model consists basically in producing and selling our product. The social enterprise receives the funds for the system and the final consumer receives the product and pays a micro-credit to pay the system in a year. A microfinancing entity is in charge of this process. We obviously have to pay attention to our distribution channels therefore part of our labor or the labor of our NGO is to have sessions with our distributors to train them on our scheme and operating philosophy.

The Story

What was the defining moment that led you to this innovation?

I participated with one of the other founding members in the International Student Energy Summit in Calgary, Canada. We had previously founded the student group for energy and environment and were involved in different energy and climate change initiatives. In this summit we participated in diverse conferences, met other students that participated in the subject and met great scholars that told us all about renewable energy. We entered a conference titled "Renewable Energy for Developing Countries", where the scholar talked about how you could use renewable energies and diverse sustainable projects in rural communities.

Once we returned we decided to use our student group as a base to create projects to link students both with renewable energy and rural development. We had already worked in different projects in communities and decided to explore with solar energy. We contacted some classmates that we knew worked with lighting systems and told them about our idea. From this day on we started working both on the prototype and our social scheme.

Tell us about the person—the social innovator—behind this idea.

Manuel Wiechers (me) recently finished Industrial Engineering in the UNAM (National Autonomous University of Mexico) with a 9.43 GPA (out of 10). I graduated high school from the American School Foundation. After I finished high school (as an average student) I decided I would be an above average student in the University. I have participated in various summits and have been granted different scholarships. In 2007 I was selected for the Goldman Sachs Global Leaders Program, a scholarship granted to 2nd year university students based on leadership skills, extracurricular activities, community service and academic achievements. In this summit I met extraordinary people my age involved in great initiatives and with great motivation. This changed my view on life and I decided I would make a difference. After the Goldman Sachs Summit in New York, I returned and founded the student group for energy and environment in my University. Through this, we organized diverse conferences and many activities. I then was awarded a scholarship to attend the International Student Energy Summit in Canada, on my return I founded Iluméxico with 7 other classmates and we won the Santander Prize for Entrepreneurial Innovation in the Social Enterprise category. I was then awarded a scholarship from the Dutch government to attend the COP 15 of the United Nations Framework Convention on Climate Change in Copenhagen, Denmark as a youth NGO observer. I have been working for a year in General Electric in the Power and Water area (Wind and Thermal projects) and performed investigation in the Engineering Institute of my university on solar energy applied to desalinization of saline water. I will be attending the World Youth Congress in Istanbul, Turkey next August and on my return will be devoting my entire time to Iluméxico. I am also an avid soccer player and enjoy ceramics and photography. My mission in life is to give something back considering I have received many God-given blessings.

How did you first hear about Changemakers?

Friend or family member

If through another source, please provide the information

Source URL: <https://www.changemakers.com/socialbusiness/entries/ilumexico#comment-0>