



TanzSolar Ltd.

www.tanzsolar.com

Business Plan for TanzSolar Ltd.

November 4, 2009

Copy Number: _____



TanzSolar Ltd.

www.tanzsolar.com

Business Plan for TanzSolar Ltd.

4 November 2009

Table of Contents

	page
I. Executive Summary	3
II. Market Analysis	4
III. Company Description	7
IV. Products & Services	8
V. Marketing & Sales	9
VI. Operations	11
VII. Management	11
VIII. Financials	13
IX. Appendices	16
A. Incorporation Documents	
B. Licenses	
C. ED Resume	



TanzSolar Ltd.

www.tanzsolar.com

Business Plan

I. Executive Summary

The TanzSolar Vision

We believe in a world where everyone can afford to live and work in a clean, well-lighted environment using modern technology and renewable power.

Mission Statement

TanzSolar's mission is to reduce poverty and improve the quality of life for people throughout rural Tanzania through the promotion of affordable technology powered by renewable energy, distributed to people not served by, or unable to afford connection to, an electricity grid.

Organization Overview

TanzSolar is a nonprofit company established in Tanzania in January 2008 for the purpose of providing solar and other renewable electricity and energy efficient equipment to rural communities in Tanzania. TanzSolar is working with international suppliers and local businesses to procure, design, build, install, and maintain solar electric and lighting systems for homes, public institutions such as schools, dispensaries and health clinics, and businesses in rural communities.

TanzSolar was founded by Marianne Walpert and Godson Nyange. Ms. Walpert is both a board member and executive director. She brings 20 years of experience in management and technical expertise through her work in the photovoltaic industry since 1984. Mr. Nyange is on the board of directors. He is a practicing lawyer in Dar es Salaam and has been instrumental in getting the nonprofit corporation started. Delphinous joined the board of directors in January 2009. He brings many years of business management experience working with several corporations in Tanzania. All board members are committed to the goals of the organization.

Aside from the executive director TanzSolar has one employee; Mr. Justin Ibrahim, Lake Zone Program Coordinator. The corporation headquarters is in Musoma, the largest town in the Mara Region. The headquarters consists of a small office building with sales and R&D space, a larger building used for meetings, lodging and storage space as well as a secure outdoor facility for product testing.

TanzSolar is working with public organizations and private companies in Tanzania to develop jobs and resources for renewable energy equipment and services designed to reach the most rural communities. Most of the activities of TanzSolar to date have been focused in the Lake Zone of Tanzania. Going forward we plan to expand into all rural areas of the country.



TanzSolar Ltd.

www.tanzsolar.com

II: Market Analysis

Tanzania is one of the poorest countries in the world.¹ The population of the mainland is 39.3 million, and of Zanzibar is another 1 million (est.). More than 80% of the population is rural, and per capita income in 2006 was \$319.² Since achieving independence in 1961, the government of Tanzania has focused on poverty eradication as its main goal.³ In the last decade the government has emphasized equitable and sustainable economic growth, poverty reduction and improvement of basic social services. Nevertheless, in 2001, Tanzania was ranked 140 out of 162 on the UNDP Human Development Index (HDI).⁴

Initial Target Area for TanzSolar Activities

The geographic focus of the proposed TanzSolar activities is the Lake District of Tanzania which includes four regions; Shinyanga, Kagera, Mwanza and Mara. Over one million households in this four-region area have no electricity. All over Tanzania, fuels used for cooking, lighting, and other uses are getting more expensive as a percentage of household income. In nominal terms, the average electricity tariff increased almost nine fold between 1990 and 2003, and kerosene retail prices increased by more than a factor of four between 1993 and 2003.⁵ Since then, by local accounts they have increased fivefold again. Given the recent increase in fossil fuel prices, the burden on these limited household budgets is already unbearable.

The following table shows the population and availability of electricity in this region.

Table 2: Selected 2002 Census Data for the Lake Zone of Tanzania⁶

Region		Total Population	Urban Population	Rural Population	Avg. House -hold Size	Number of Rural Households	Estimated Number of Rural Households <i>Without</i> Electricity
17	Shinyanga	2,805,580	135,166	2,670,414	6.3	423,875	381,488
18	Kagera	2,033,888	81,221	1,952,667	5.2	375,513	337,962
19	Mwanza	2,942,148	532,997	2,409,151	5.9	408,331	367,498
20	Mara	1,368,602	108,242	1,260,360	5.5	229,156	206,241
Total for Lake Zone				9,150,218	5.7	1,436,875	1,293,188

¹ The World Factbook, by the CIA, www.cia.gov/library/publications/the-world-factbook/geos/tz.html

² US Department of State, www.state.gov/r/pa/ei/bgn/2843.htm

³ Tanzania National Website, www.tanzania.go.tz/poverty.html

⁴ UNITED REPUBLIC OF TANZANIA COUNTRY PROFILE March 2004 Prepared by the ILO InFocus Programme on Skills, Knowledge and Employability in the framework of a project funded by Development Cooperation Ireland (DCI) International Labour Office, Geneva

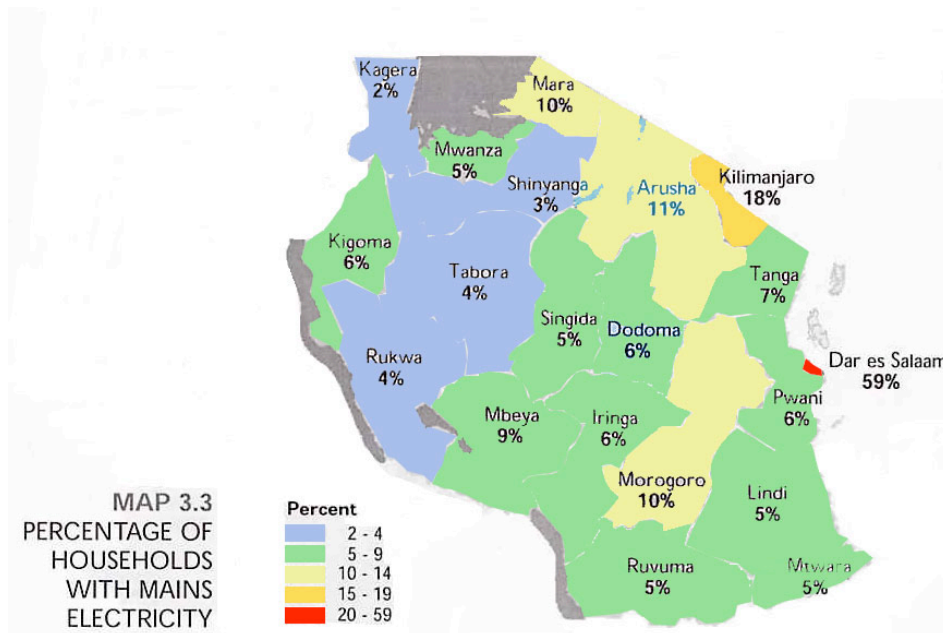
⁵ Negotiating Reforms at Home: Natural Resources and the Politics of Energy Access in Urban Tanzania by Rebecca Ghanadan, 2004, Energy and Resources Group, University of California Berkeley

⁶ The Tanzania National Bureau of Statistics



TanzSolar Ltd.

www.tanzsolar.com



Fraction of Households with Electricity (from 2002)⁷

Issue: Energy & Kerosene Problem

Electricity is unavailable and/or unaffordable for most rural households in Tanzania, so residents of rural regions use kerosene for lighting. Approximately 1,400,000 households, over eight million people, in the Lake District of Tanzania use kerosene or wood for lighting their homes and businesses. Kerosene-based lighting is inefficient, expensive, dangerous and unhealthy.

In addition to health risks, kerosene creates a dangerous fire hazard. Kerosene and candles cause countless fire catastrophes every year. In 1998, there were 282,000 deaths from fire related burns worldwide and 96% of the fatalities were in developing countries. Each year, many homes, schools and even entire communities burn to the ground when a lamp is toppled.

The light provided by a kerosene lamp is not very bright. The light is only 2 to 4 lumens compared to a 60 watt bulb with 900 lumens. The amount of light from the lamp is only about 0.2% of what the people in industrialized countries have for the same price. The light is so poor that children can only see their books if they are almost directly over the flame. Parents and children can only practice very basic reading and writing skills after dark when they are dependent the inconsistent and poor light provided by kerosene wick lamps and wood fires. Kerosene lamps and improper lighting create a barrier to education and learning.

Solution: Clean, Efficient Technologies

Recent cost and efficiency improvements in LEDs have made it possible to create affordable, efficient and long-lasting lighting systems powered with small solar panels and maintenance-free, rechargeable lead acid batteries.

Solar lights bring the promise of clean, portable, durable, lower cost, and higher quality lighting. The challenge is to make these products accessible to the rural households of Tanzania, thus

⁷ The Tanzania National Bureau of Statistics 2002



TanzSolar Ltd.

www.tanzsolar.com

bolstering local commerce, creating jobs, enhancing incomes, cleaning the air, and improving health, safety, and quality of life. The income generating potential is limited to selling the excess crops they can grow and get to market. While education programs are a government focus, there are still no jobs. Electric light is one of the most important elements for increasing personal productivity, which is the key to economic growth, and reduction in the level of poverty.

Global Pollution Concerns

According to Lawrence Berkley National Laboratories (LBNL) the single greatest way to reduce greenhouse gases associated with lighting energy use is to replace kerosene lamps with white LED lighting systems in developing countries. Fuel-based lighting in the developing world is a source of 244 million tons of carbon dioxide emissions to the atmosphere each year, or 58% of the CO₂ emissions from residential electric lighting.

Economics

Because the energy requirement for LED lighting has decreased so much, much of the population in extreme poverty can afford solar lighting, although a payment plan might still be required. The solar lights that we are introducing cost people \$30 - \$100. One person from each village will be trained in the maintenance of these products. The only regular maintenance will be to replace the battery. The lights offset the need for kerosene lanterns and the money saved on kerosene will be much greater than the cost of maintaining the batteries and replacing light bulbs. The cost of the basic lighting systems is equal to 3 – 5 months worth of kerosene.

Benefits - Modern lighting can

- * Extend the working day for small and medium enterprises thus expanding production, enriching income opportunities, improving working conditions, and increasing customers
- * Enhance safety and security via outdoor lighting for personal, business, and community activities
- * Create conditions to attract teachers, retain students, expand time for student reading and studying, and improve grades and school retention rates
- * Provide opportunities for adult literacy and higher education programs
- * Improve health services delivery and thus reduce productivity loss due to illnesses

Among the poorest of the poor, lighting is often the most expensive item among their energy uses, typically accounting for 10-25% of total household income. Kerosene lamps provide low quality and very expensive light. They introduce multiple health and environmental hazards, as well as a significant fire risk.



TanzSolar Ltd.

www.tanzsolar.com

III. Company Description

Mission Statement

TanzSolar's mission is to reduce poverty and improve the quality of life for people throughout rural Tanzania through the promotion of affordable technology powered by renewable energy, distributed to people not served by, or unable to afford connection to, an electricity grid.

Organization Overview

TanzSolar is a nonprofit company established in Tanzania in January 2008 for the purpose of providing solar and other renewable electricity and energy efficient equipment to rural communities in Tanzania. TanzSolar is working with international suppliers and local businesses to procure, design, build, install, and maintain solar electric and lighting systems for homes, public institutions such as schools, dispensaries and health clinics, and businesses in rural communities.

Background

In 2006 TanzSolar's founder was invited to meet faculty at Dar es Salaam Institute of Technology and VETA to discuss training young people in solar electric technology. As a result of this experience in Tanzania, TanzSolar was established as a charitable organization to encourage the expansion of educational opportunities in the solar area and the use of renewable energy technology to benefit the poor. In addition to benefiting households, solar and wind energy can provide electricity for rural health centers and dispensaries and assist with the provision of clean water through water pumping.

With the new efficiency of LED lighting and the availability of solar and renewable technologies, great social benefit can be achieved at low cost. The increasing economic strain on rural households purchasing kerosene for lighting as well as the adverse health and safety factors of kerosene lanterns motivated the choice of solar lighting as the first technology to introduce.

Our first program objective is to introduce the use of solar electric lighting, leading to improved quality of life for rural Tanzanians and enhanced productivity and income for local businesses. Approximately 1,400,000 households, over eight million people, in the Lake Zone of Tanzania use kerosene or wood for lighting their homes and businesses. Kerosene lamps and fire provide low quality, expensive light. They cause multiple health hazards due to indoor smoke, safety concerns due to fires and contribute to greenhouse gas pollution. TanzSolar intends to demonstrate economic viability and social acceptance of a renewable energy lighting system, providing a model to expand distribution and eventually enable millions of Tanzanians to lead more productive, healthier lives. Rural families currently spending a significant portion of their income on fuel can drastically reduce this financial burden. The country as a whole will have reduced dependence on imported fuels and reduced need for cutting down the trees which are so important for sustaining the local eco-system.

TanzSolar is working with local installation partners to deliver and install solar lighting systems. Initially these are being installed in the Lake District of Tanzania. Jua Ltd, operating in Musoma since 1990, is our local partner helping to sell, install and service the equipment with business, training and technical support from TanzSolar. In the first year of operations, 2008, 50 complete residential lighting systems were installed. In 2009 we have sold over 1000 solar lights.



TanzSolar Ltd.

www.tanzsolar.com

IV. Products & Services:

Village Program

Currently there is little use of photovoltaic (solar electric) technology in rural Tanzania. Lighting is primarily supplied by kerosene lanterns which pose health risks, fire hazard, pollution and are a financial burden for village residents.

The first TanzSolar programs are focused on solar powered lighting for village homes. The initial costs have been kept to a minimum with small systems using energy efficient lighting technologies. Eventually we hope to be able to provide larger solar systems designed for powering radio, computers, television and refrigeration for communities and/or organizations that can afford them.

Dispensary Program

TanzSolar is specifically targeting healthcare clinics (dispensaries) for solar electric equipment packages. Dispensaries require refrigeration and medical test equipment as well as efficient lighting. Our goal is to secure outside funding so that we can provide these systems at little to no cost, charging only for maintenance to ensure continued operation and security.

Education

The first phase in our education program is to demonstrate the use of photovoltaic lighting products in the villages. The systems use LED lights, solar panels and batteries. We have established a test village where 45 homes have been supplied with multi-light systems. These have been successful in creating demand for additional systems in these villages. In addition we have purchased over 5,000 d.light brand solar-powered LED lights. We have been going to the villages with these lights to demonstrate them at the open markets and around town in the evenings. TanzSolar is having the best success with schools and teachers with these lights as they are sturdy and bright for reading. We are having less success with villagers who need them badly but cannot afford them.

Educational institutions in Tanzania have expressed a keen interest in working with TanzSolar to develop training programs in solar energy. Students come primarily from the rural regions of Tanzania, and so present an ideal population for training in solar technology with the intention of bringing the technology back to the villages and providing local expertise. TanzSolar will develop educational materials to support these programs and to introduce solar educational materials at the secondary school level.



TanzSolar Ltd.

www.tanzsolar.com

V. Marketing & Sales

Goal

The goal of TanzSolar is to improve the quality of life for rural Tanzanians through the introduction of small-scale distributed generation using renewable resources combined with energy efficient technologies.

Objectives

2008

- A. Lighting for 50 rural homes

2009

- A. Lighting for 500 rural homes
- B. Lighting for 5 rural schools

2010

- A. Lighting for 1000 rural homes
- B. Lighting for 25 rural schools
- C. Education Package for 5 schools
- D. Lighting and power for 2 rural dispensaries

2011

- A. Lighting for 2000 rural homes
- B. Lighting for 100 rural schools
- C. Education Package for 50 schools
- D. Lighting and power for 10 rural dispensaries

2012

- A. Lighting for 4000 rural homes
- B. Lighting for 300 rural schools
- C. Education Package for 100 schools
- D. Lighting and power for 50 rural dispensaries

Strategies

- A. Lighting for rural homes:
 - Education about solar lighting directly to villagers.
 - Sale of subsidized, state-of-the-art solar-LED lighting systems.
- B. Lighting for rural schools:
 - Direct contact with school superintendents
- C. Educational package for students and teachers:
 - Specific grant for development of educational course books and experiment kits.
- D. Lighting and power for rural dispensaries:
 - Create design for standard power system.
 - Obtain financial support from international organizations.

Tactics

- A. Sale of subsidized, state-of-the-art solar-LED lighting systems –
 - Direct sales and educational outreach to villagers will be via monthly local markets, local retail support (village shops), supply of educational materials to local teachers and religious institutions. Educational literature will be produced in the local language with



TanzSolar Ltd.

www.tanzsolar.com

pictures, in a comic book format to encourage information sharing across all age groups and literacy levels.

- B. Lighting for schools will be promoted through direct contact with teachers, school superintendents and local government offices. Educational materials will be produced through financial support from REA, the Rural Energy Agency, and/or other institutions. A classroom demonstration kit will be developed to teach secondary school students and teachers about solar electricity.
- C. The education program will request support from foundations specializing in education. TanzSolar will develop grant proposals to obtain funds. TanzSolar has experience and personnel well qualified to develop these materials.
- D. Power for dispensaries will require support from established international organizations. TanzSolar will develop grant proposals to obtain funds. Design of systems will be accomplished through a survey of local dispensaries to establish equipment and power requirements. Local personnel will be trained to install and maintain systems.

Existing Market

The opportunity lies in the enormous potential market for this product, the growing awareness about solar electricity and the expanding network of local solar service providers. Educational institutions throughout Africa are hungry for information and equipment to provide training. For the first time we have a solar lighting solution that is truly affordable.

As outlined in section two, Market Analysis, the market for solar lighting and power in the rural areas of Tanzania is enormous. There are over one million households, over six million people, in rural areas with no electricity in just the first four regions we have targeted. This program can easily be scaled up as local service companies are developed. Our program goals include nearly a million lighting systems installed within ten years.

Barriers and Risks

Similar products and services can and are being introduced in other regions of the world.

Significant constraints include a lack of effective marketing and sales organizations in the rural areas where the technology is most needed, the cost to reach those target areas, a lack of trained local field personnel and financing for businesses and customers.

Potential Risks;

Product quality: The program will not be sustainable if products do not last for many years.

Theft: If the products cannot be kept secure the program will not succeed.

Lack of funds: Without sufficient funds to subsidize products and services the local population cannot afford to use solar and other renewable sources.

Risk mitigation strategies

Partnering with manufacturers to ensure quality and modify the product as needed to meet the requirements of the homes and businesses. Local training and parts supply (batteries) will ensure continued operation.

TanzSolar has designed a mounting system that will make solar panel theft difficult, and products will be engraved with serial numbers and markings to deter theft.

Budget shortfalls may increase cost, interest rate, or fundraising requirements. They may slow implementation but will not alter program goals.



TanzSolar Ltd.

www.tanzsolar.com

VI. Operations

TanzSolar is headquartered in Musoma, Tanzania. The office, workshop and storage facility are part of a 3-building property rented by the company. Day to day management is done by Justin Ibrahim with Marianne Walpert on-site approximately 6 months/year.

Registered Office: 6Q Majitaa Road, Musoma, Tanzania

VII. Management

- Marianne Walpert
 - Executive Director, Chairman of the Board
 - Primary responsibilities and authority
 - MS Physics
 - Over 25 years experience in the photovoltaic energy industry. Experience in management and company ownership for the past 20 years.
 - Management positions include Schott Solar, Pacific Power Management. Company ownership of Pacific Solar Company.
 - Experience includes both management and technical expertise
 - Founder of Pacific Solar Company and TanzSolar
 - Marianne Walpert has been working with solar electric technology since teaching her first class on photovoltaic technology in 1985. She has managed Pacific Solar Company since 1991 in addition to holding management positions at three prominent solar companies.
 - Compensation – none to date. Reasonable compensation will be set once funding is obtained.
-
- Justin Ibrahim
 - Lake Zone Program Coordinator
 - Managing all TanzSolar activities in the Lake Zone
 - Coordinator with local service provider partners
 - Graduate: Tarime Teachers College
 - EU Solar Training Program, Musoma
 - Previously employed by Jua Ltd, an Musoma based ISP
 - Position: Network member care manager
 - Employed by Jua Ltd. 2004 – 2008
 - Consulting to Mkurabita PBFP – Poverty and Land Registry
 - Computer based village land registration



TanzSolar Ltd.

www.tanzsolar.com

Board of Directors:

Ms. Marianne Walpert

Musoma, Tanzania and Auburn, California USA

- Chairperson of the Board
- Executive Director, full time
- 25 years experience in the Photovoltaic Industry in management, founder and ownership positions
- MS Physics, Northeastern University, Boston, MA USA
- Founder, TanzSolar

Mr. Godson Hudson Nyange

Dar es Salaam, TZ

- Secretary of the Board
- Managing Partner; Nyalali, Warioba & Mahalu Law Advocates
- Doctorate of Law, University of Dar es Salaam, TZ
- Regional and District for the Government of Tanzania
- Founder, TanzSolar
- Legal assistance in forming TanzSolar Ltd.

Mr. Delphinous Costa Penessis

Kagera and Dar es Salaam, TZ

- Director
- Business and Government Affairs Advisor
- MS IFM (Institute for Financial Management), Dar es Salaam, TZ
- Plant Manager, Kagera Fish Company
- Especially interested in assisting with the Health Care and Business Power Applications



TanzSolar Ltd.

www.tanzsolar.com

VIII. Financials

Included here; TanzSolar Ltd. Budget 2008 - 2012

- Expenses
- Income
- Project Detail

TanzSolar 5-Year Budget 2008 - 2012									
[In Tanzanian Shillings [TSH]]									
Expenses		2008 - Actual		2009		2010		2011	
#	Type of Revenue or Expense								
	Compensation of officers, directors and trustees								
1		115,412		1,384,944		27,698,880		55,397,760	
2	Other Salaries and wages	0		3,300,000		13,200,000		19,800,000	
3	Professional fees	2,025,000		6,750,000		13,500,000		27,000,000	
4	Fundraising expenses	309,150		20,250,000		27,000,000		33,750,000	
5	Interest expense	0		21,419,080		10,709,540		0	
6	Rent	6,804,000		7,290,000		7,290,000		7,290,000	
	Occupancy (Majita Rd expenses)								
7		3,318,469		3,318,469		4,314,010		5,608,213	
8	Program services	303,723		18,277,395		189,578,533		337,020,155	
	Lighting for rural homes & small businesses	303,723		9,986,800		35,101,010		53,315,392	
b	Lighting for rural schools	0		1,790,595		9,141,156		34,606,309	
c	Develop and Deliver Solar	0		0		66,980,000		109,600,000	
d	Education materials for rural	0		0		68,606,367		124,873,454	
e	Design and deliver lighting and power for rural dispensaries	0		0		9,750,000		14,625,000	
	support volunteer activities	0		6,500,000					
	Purchase of equipment for sale and distribution								
9		258,684,507		1,080,000		44,605,500		271,765,000	
a	Nova Lights	258,684,507		0		0			
b	Village lighting systems	0						70,000,000	
c	school lighting systems	0		0		9,517,500		95,175,000	
d	school edu pkg	0		0		9,438,000		47,190,000	
e	dispensary packages	0		405,000		12,150,000		32,400,000	
f	Solar phone chargers	0		675,000		13,500,000		27,000,000	
g	other products	0		0					
10	Administration	710,483		2,019,047		3,028,571		4,542,856	
a	Office Supplies	28,215		84,645		126,968		190,451	
b	Communication	0		911,000		1,366,500		2,049,750	
c	Taxes and fees	682,268		1,023,402		1,535,103		2,302,655	
11	Marketing and Sales	73,887		925,000		1,387,500		2,081,250	
	Public Relations			275,000		412,500		618,750	
	Design Services			230,000		345,000		517,500	
	Printing	73,887		420,000		630,000		945,000	
12	Transport	33,642,225		22,275,000		36,025,378		62,550,756	
a	transportation of goods	11,025,378		675,000		11,025,378		22,050,756	
b	travel	22,616,847		21,600,000		25,000,000		40,500,000	
13	Depreciation and depletion			3000		5000		7000	
14	Total Expenses	305,986,856		81,989,888		293,290,963		485,866,128	



TanzSolar Ltd.

www.tanzsolar.com

TanzSolar 5-Year Budget 2008 - 2012									
In Tanzanian Shillings [TSH]									
Income		2008 - Actual	2009	2010	2011	2012			
Type of Revenue or Expense									
1	Donations	0	17,850,000	351,000,000	411,750,000	535,275,000			
a	Gifts								
b	Grants		17850000	47,250,000	54,000,000	70,200,000			
c	Contributions (in-kind)			270,000,000	337,500,000	438,750,000			
d	Other			33,750,000	20,250,000	26,325,000			
Value of services or facilities furnished by a governmental unit without charge		0	0	0	0	0			
6		0	0	0	0	0			
7	Other revenue	0	0	0	0	0			
a		0	0	0	0	0			
b		0	0	0	0	0			
Gross receipts from admissions, merchandise sold or services performed, or furnishing of facilities		0	18,930,000	99,150,000	241,873,000	496,360,000			
9		0	18,930,000	99,150,000	241,873,000	496,360,000			
a	Village lighting systems	0	17,850,000	73,500,000	154,000,000	322,000,000			
b	and school lighting systems								
c	School edu pkg	0	0	0	19,035,000	38,070,000			
d	Dispensary packages	0	0	0	9,438,000	47,190,000			
e	Solar phone chargers	0	405,000	12,150,000	32,400,000	48,600,000			
f	Other products	0	675,000	13,500,000	27,000,000	40,500,000			
g	Design and installation services								
13	Total Revenue	0	36,780,000	450,150,000	653,623,000	1,031,635,000			



TanzSolar Ltd.

www.tanzsolar.com

Activity Expenses - All values in TZS All numbers in Tanzanian Shillings, TZS			1	2	3	4	5
			2008	2009	2010	2011	2012
I Lighting for rural homes & small businesses							
A.	Trips to village markets	0.1	126000	2595600	8020404	13768360.2	22690257.61
	1 market visits per month						
	2 transport (avg. mileage exp. per trip)		85000	87550	90177	92882	95668
	3 wages		5000	5150	5305	5464	5628
	4 meals & hotels		15000	15450	15914	16391	16883
B.	Trips to meet with teachers, religious institutions and local NGO's	0.1	126000	2595600	8020404	11014688.16	14181411.01
	1 visits per month					0	0
	2 transport (avg. mileage exp. per trip)		85000	87550	90177	92882	95668
	3 wages		5000	5150	5305	5464	5628
	4 meals & hotels		15000	15450	15914	16391	16883
C.	Meetings with rural business owners to establish needs and product requirements	0.0	0	2595600	4010202	5507344.08	5672564.402
	1 visits per month					0	0
	2 transport (avg. mileage exp. per trip)		85000	87550	90177	92882	95668
	3 wages		5000	5150	5305	5464	5628
	4 meals & hotels		15000	15450	15914	16391	16883
D.	R & D to determine best available products for value and quality	1.0	51723	1300000	12350000	18525000	22230000
	1 purchase samples						
	2 lab test equipment, meters				5500000	8250000	9900000
	3 personnel				6000000	9000000	10800000
	4 publish product reports				2500000	3750000	4500000
E.	Design and printing of solar-lighting education booklets	0	0	9000000	2700000	4500000	7200000
	Content, Graphic design and layout			200000	600000	1000000	1600000
	Printing		0	700000	2100000	3500000	5600000
I	Total Expenses for Lighting for rural homes & small businesses program		303723	9986800	35101010	53315392	71974233
II Lighting for rural schools							
A.	Trips to schools	0	0	108150	668367	1147363	1890855
	1 school visits per month						
	2 transport (avg. mileage exp. per trip)		85000	87550	90177	92882	95668
	3 wages		5000	5150	5305	5464	5628
	4 meals & hotels		15000	15450	15914	16391	16883
B.	Trips to meet with ministers and regional school boards	0	0	32445	222789	458945	472714
	1 visits per month						
	2 transport (avg. mileage exp. per trip)		85000	87550	90177	92882	95668
	3 wages		5000	5150	5305	5464	5628
	4 meals & hotels		15000	15450	15914	16391	16883
C.	Installation services	0	0	1650000	8250000	33000000	99000000
	1 Installation of lighting equipment		330000	330000	330000	330000	330000
II	Total Expenses for Lighting for rural schools program		0	1790595	9141156	34606309	101363569
III Education package for rural schools							
A.	Teacher survey to establish educational package requirements		0	0	14100000	0	0
	develop survey				4700000		
	solicit responses				7050000		
	final report				2350000		
B.	Development of educational package for teachers				13180000	1350000	1800000
	write course curriculum, experiment list and teachers notes				13000000	0	0
	print teacher books				36000	27000	18000
C.	Development of educational package for students		0	0	19200000	27000000	37800000
	Write coursebook with problems and experiment book for students				13000000		
	print books				36000		
	build hardware prototype				650000		
	test hardware package - classroom				150000		
D.	Source best-value, highest quality equipment		0	0	13000000	32500000	39000000
E.	Manufacturing of educational kits		0	0	7500000	48750000	48750000
	quantity				38	200000	375
III	Total Expenses for Education pkg. for rural schools program		0	0	66980000	109600000	127350000
IV Lighting and power for rural dispensaries							
	Initial survey of 10 rural dispensaries		0	0	68606367		
A.	Initial survey of 10 rural dispensaries	0	0	0	668367	983454	1772676
	1 dispensary visits						
	2 transport (avg. mileage exp. per trip)		85000	87550	90177	92882	95668
	3 wages		5000	5150	5305	5464	5628
	4 meals & hotels		15000	15450	15914	16391	16883
B.	System Design		0	0	1300000		
	Creation of equipment specification & design			1300000			
C.	Grant writing for multiple funding sources		0	0	32500000	52000000	52000000
D.	Source best-value, highest quality equipment		0	0	24700000	24700000	24700000
	on-line research				14300000		
	vendor visits				10400000		
E.	Implementation	0	0	0	9438000	47190000	235950000
	equipment for dispensaries		3159000	3159000	3159000	3159000	3159000
	installation of equipment		1560000	1560000	1560000	1560000	1560000
IV	Total Expenses for rural dispensaries program		0	0	68606367	124873454	314422676



TanzSolar Ltd.

www.tanzsolar.com

IX. Appendices

- A. Incorporation Document**
- B. Licenses**
- C. ED Resume**
- D. Project financials**