

Solar Entrepreneurship Program



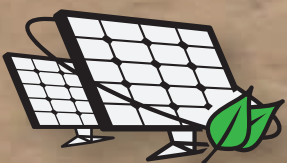
kWatt Solutions Pvt. Ltd.
economising renewables

www.kwattsolutions.com



kWatt Solutions Private Limited (kSPL), founded by IIT Bombay Prof. Dr. Chetan Singh Solanki is incubated in Society for Innovation and Entrepreneurship (SINE), IIT Bombay, and is constantly driven by the idea to light up the lives of people using the huge untapped solar energy potential in India. kSPL offers customised comprehensive solar energy solutions right from design and engineering to installation and maintenance with in-house training for new people in the solar industry.

Our Focus



Green Energy



Education



Employment

304 Million Indians are still without Electricity

Legend:

- Below 500
- 500 - 1500
- Above 1600
- Data NA

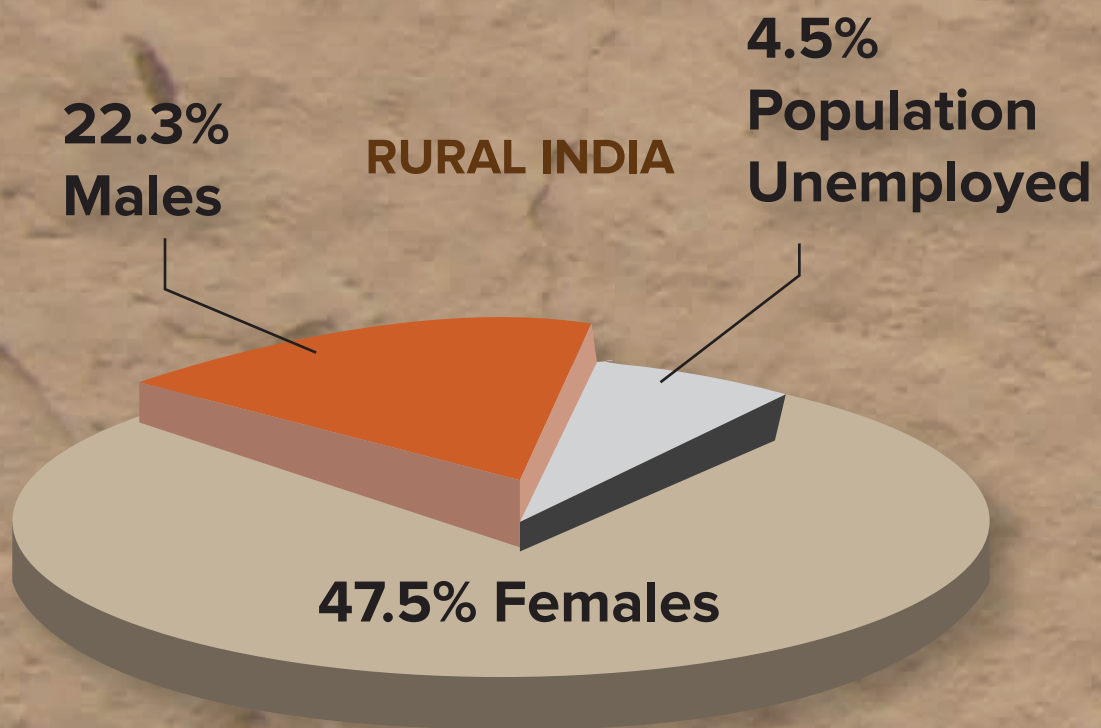
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- 500 - 1500
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Number of Unelectrified villages in India

Why Solar Energy?

It is estimated that 1,000 - 2,000 MW of solar power will be required for around 20,000 villages in the country. Some of the major causes which has left many villages in India without electricity are lack of resources, political will, poor planning, and electricity theft.

44.79 Million Unemployed in India



India and Unemployment

As reported by the Ministry of Labour and Employment, India an approximate number of unemployed persons in India are 44.79 Million. In rural India, 22.3% of males and 47.5% of females are illiterate which is one of the major reason for high unemployed rural population.

How We Solve It ?

We aim to provide rural enterprise based solutions, developing a value chain of assemblers, promoters and retailers. The uniqueness of the proposed model is that it will work only with women and rural youth playing key roles in the clean energy value chain. The project provides reliable livelihood opportunity as solar entrepreneurs and provides affordable clean energy solution to rural household.

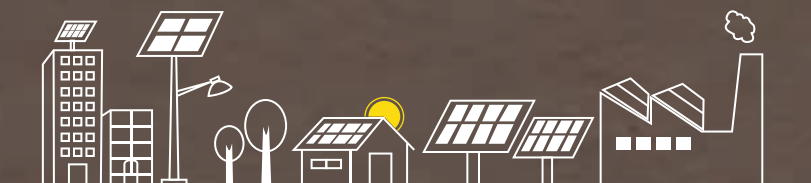
The project 'Solar Enterprise Model' targets following benefits to the rural community-

- Job/livelihood opportunity for women and youth
- Developing Rural Entrepreneurs and Skills
- Sustainable and affordable lighting solution



Solar Demand Assessment by Geography

A demand analysis survey is conducted in selected region covering the households and SRCs in various hamlets of the geography. Results obtained from the demand analysis majorly include the electrification rate, litre of kerosene used on monthly basis and price range of solar products people would prefer in various hamlets of that region.



Project Flow

We provide participants with a rigorous session through uniquely designed curriculum, catering to their needs. They get exposure to live projects during on-field internship, essentially detailing about practical scenario of solar industry. A combination of presentations by invited speakers, case study sessions and discussion sessions reviewing recent advances in technology make this workshop a must attend for aspiring entrepreneurs.



Training



Product Development



70% hands-on session



Assembly



Repair and Maintenance



Opportunity to sell
Solar products

Our Roots in Solar Trainings

Based on experience gained through **Million SoUL** program of local level assembly and distribution of solar lamps to rural students, **BISLD** in collaboration with kWatt intends to create “Young Entrepreneurs Enterprises” across the country with special focus on the business opportunities in solar products sector in the field of solar PV.

Highlights:

- Conducted more than **100 training programmes**
- Over **5,000 participants** in our wide range of workshops
- Conducted Suryamitra trainings funded by **Ministry of New and Renewable Energy**, in association with National Institute of Solar Energy
- Track record of **65% placements**





How do you help the environment:

For every 100 kW of Solar on your roof, you reduce emissions equivalent to

- 3741 Tons of CO₂ every year
- Planting 5985 mature trees

Affiliated by



Our Associations



Featured On



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Solar Entrepreneurship Training

A Techno-commercial Proposal



Submitted by

kWatt Solutions Pvt. Ltd.

Motivation

India is not rich in conventional fuels like oil, gas and nuclear. Our dependence on import of these fuels and ever increasing prices makes the electricity unreliable and expensive. There is need to demonstrate and practice alternative electricity solutions which are environment friendly, and, more importantly, cost-effective. With advancement in solar Photovoltaic technologies and significant reduction in the prices, solar electricity, even today in many sectors, is an economically viable alternative to grid electricity.

Dr. Chetan Singh Solanki

INTRODUCTION

Based on experience gained through million SoUL program of local level assembly and distribution of solar lamps, kWatt in collaboration with Education Park Society(EPS) intends to create “Young Entrepreneurs/enterprises” across the country with special focus on the business opportunities in solar products sector in the field of solar PV.

Solar PV is a rapidly evolving field with new solutions in construction, logistics and supply chain, equipment technology, applications and services as project developers to reduce the construction time and improve project performances.

The training will offer an excellent learning and networking opportunity for representatives from all stakeholders of solar industry. A combination of presentations by invited speakers, case study sessions, and discussion sessions reviewing recent advances in technology make this workshop a must attend for aspiring entrepreneurs.

PROJECT DETAILS

The Entrepreneurship opportunity is designed to complete in two phases;

Phase-I will be to impart training on development, assembly, repair and maintenance of various solar products.

Phase-II The selected candidates from training will form a group of entrepreneurs who will be provided with the opportunity of assemble and sales of solar products worth INR 5,00,000/- , thus by guiding them towards being an entrepreneur and providing them hands on experience in running a solar enterprise.

Note: - The products worth INR 5,00,000 will be community owned, by a formal group of entrepreneurs. The legal status of group of entrepreneurs will be “Association of Persons” (AOP). Its dynamics are nearly same as that of “Partnership Firm”. The group can be registered under AOP since; any scheme of govt. will be applicable for them.

Project Financials

The budget for training is INR 14.50 Lakh, which would be for 416 hours training for 30 participants, the breakup is as follows: -

Sr. No.	Particulars	Description	Amount (In lakh)
1	BISLD management cost	Staff, transportation, logistic expenses	1
2	Course Fee to the Institute (kWatt)	Rs.45/- per hour*416 hours* 30 participants	5.616

3	Boarding, Lodging and Food	Rs.300 * 30participants *60 days	5.40
4	Tools, Equipment's and other components	Rs.5000*30participants	1.50
5	Study Materials and other stationary	Rs.3280*30participants	0.984
	TOTAL		14.50

Project area

The project will involve participants from remote/rural regions. With support from training, these participants can explore the potential of establishing solar enterprises in their respective village areas.

Selection of Participants

Selection of participants will be under the scope of EPS. The process of filtration will be based on educational qualification. The selected member's needs to pay an amount, finalized through discussions within the group as membership fees for the AOP (Association of Persons) formed. This amount will be refundable once the member decided to leave the group. This amount will also be used as a security amount for solar products given on credit.

Curriculum/Course Details

Each training program consists of 20 participants and total duration of training will be 2 months (416 hours) including on field internship which focuses on installation of solar products like solar lamps, solar mobile chargers, solar home lighting systems, solar water pumps and streetlights, etc.

The participants will also be given training on marketing and entrepreneurship skills so that they will become the campaigners of solar energy. Training will majorly focus on repair and maintenance of solar products like solar mobile charger, solar lamps, solar home lighting system, solar street lights etc.

Assessment and Certifications

There will an internal weekly test conducted for the students where students will judged and developed further on their weaknesses. A final assessment will be carried out by third party for the developed curriculum. After the completion of the 2 months course a certificate will be given to the participants.

FINANCIALS REGARDING ESTABLISHMENT OF SOLAR ENTERPRISE

1) Price Breakup for MRP

Product	KIT PRICE	ASSEMBLER	SELLER	RECOVERY + RECURRING COST	MRP
Saur Deep Mini	150	30	40	30	250
Saur Deep Medium	1,000	100	200	150	1,450
Home light with fan	5,626	250	300	74	6,250

2) Costing for purchase of kits first month

Product	Kit price	No of products sold per month	Total Kit cost
Saur Deep Mini	150	1,024	1,53,600
Saur Deep Medium	1,000	65	65,000
Home light with fan	5,626	50	2,81,300
Total			4,99,900

3) Number of men/women work days required for assembly of these products

Product	Assembly Capacity Per person per day	women days required
Saur Deep Mini	15	68
Saur Deep Medium	6	11
Home light with fan	2	25
Total men/women days		104
Days of work if 10assemblers		10

4) Monthly income for assembler

Product	margin for assembler per kit	total margin assembler
Saur Deep Mini	30	30,720
Saur Deep Medium	100	6,500
Home light with fan	250	12,500
Total		49,720
Monthly income for assembler (10)		4,972

5) Monthly income for Seller

Product	margin for seller per kit	Total Margin sellers
Saur Deep Mini	40	40,960
Saur Deep Medium	200	13,000
Home light with fan	300	15,000
Total		68,960
Monthly income for Seller (10)		6,896

Monthly turnover and expenses of enterprise for 4 months

Particulars	Month 1	Month 2	Month 3	Month 4
Number of products sold per month	1,139	1,139	1,139	1,139
Total Turnover per month	6,62,750	6,62,750	6,62,750	6,62,750
Kit Price for next month purchase	4,99,900	4,99,900	4,99,900	4,99,900
10 Assemblers income	49,720	49,720	49,720	49,720
10 Sellers income	68,960	68,960	68,960	68,960
Seed money recovery	21,000	21,000	21,000	21,000
Recurring cost for enterprise	23,170	23,170	23,170	23,170

The sales number is limited to 1,139 products per month not based on limitation of demand but based on seed capital funding. The sales of 1,139 products per month will be the minimum sale which needs to be targeted by enterprise for sustainability. The sales data shown in above table is expected to continue for 24 months, recovering full seed amount. Over these two years the enterprise will gain experience and exposure to sustain on its own.

TRAINING MODULE

Module No.	Course Module	Sub-Module No.	# Days for Training	Period Hours	
				Theory	Practicals
1	Electricity Basics, Introduction to electronic components, Various measurement tools	a,b, and c	5	3	5
1	Introduction to conventional and non-conventional energy sources	d	3	6	2
1	Electrical safety rules	e	2	4	4
		Sub-Total	10		
2	Solar PV Fundamentals	a	2	4	4
2	Design and types of Solar PV Modules	b	3	3	5
2	Different types of off-grid PV systems	c	2	5	3
2	Example of off-grid PV system design	d	2	4	4
		Sub-Total	9		
3	Different types of smaller off-grid solar PV solutions and international/national standards for them.	a,b	3	5	3
3	Introduction to Solar PV based lighting solutions	c	4	3	5
3	Introduction to non-lighting Solar PV solutions	d	2	4	4
		Sub-Total	9		
4	Principles of operation of solar PV based lighting products	a	2	4	4
4	Introduction to different lighting sources and principles of LED driver circuits	b and c	3	3	5
4	Principles of charge controller, different types of batteries	d and e	3	4	4
		Sub-Total	8		
5	Assembling of different solar products	a, b and c	6	3	5
5	Trouble-shooting check list and steps	d	6	3	5
		Sub-Total	12		
6	Assessment of customer requirements	a	2	3	5
6	Installation of different solar products and steps of O&M	b and c	7	3	5
6	Best practices for after installation and maintaining relationship with customers	d and e	3	4	4
		Sub-Total	12		
		TOTAL	60		

Education Park Society (NGO), Bhikangaon Training Center
For
Young Entrepreneur Training

Introduction

kWatt Solutions Pvt. Ltd. a technology-driven company with a vision to “solarize” the future of India & make students and professionals ‘Solar Smart’ by giving them advance solar training. **Education Park Society** located in Bhikangaon, M.P has their mission to provide high quality, affordable education and training to economically disadvantaged individuals in rural areas of India by creating a nurturing environment to enable their all round growth.

kWatt Solutions Pvt. Ltd. (KSPL) will be using the infrastructure facility of Education Park Society to conduct “Young Entrepreneur Program”. Education Park Society will provide all the basic infrastructure facilities for the training program and kWatt Solutions Pvt. Ltd. will take care of all other facilities required for trainees during the tenure of training program.

Training Infrastructure



6500 Sq ft. Green building for Training, Bhikangaon M.P.

Education Park Campus

- ✓ **14.5 Acres campus**
 - Large open space with ample of Greeneries
 - Play Ground
 - Garden
- ✓ **Infrastructure**
 - Solar Powered Building
 - Solar Passive Architect
 - 24x7 Water Availability



Training Center Building

✓ Training Centre Amenities

- 6500 Sq Ft. Area
- 2 Hall for Accommodation
- 2 Class Rooms for Theoretical Training
- Lab Rooms for Practical Training
- 2 Extra Rooms for Activities like Yoga/PT
- 4 Washrooms



Lab Setups

✓ Computer Lab

- Computer Lab will be use for Theoretical Sessions
- Seating capacity of 30 Students



✓ Solar Lab

- This space will be used as Solar Lab for Practical Sessions
- Seating Capacity for 30 Students



Class Room

- ✓ 2 Class Rooms for Theoretical Sessions
- ✓ Seating capacity of 30+ each



Accommodation

- ✓ 2 Large Accommodation Hall
- ✓ Separate accommodation for Male and Female participants



Dining Area

✓ Dining Hall

- Dining Capacity for 50+ Students
- Separate Cooking Area



Solar Power Plants

✓ Practical & Hands on Training

- Solar Ground Mounted 6.5 kWp Power Plant in Campus
- Solar Roof Top 9.75 kWp Power Plant in Campus



Activity Area

- ✓ Separate Hall for Yoga/PT
- ✓ Open Space for physical activity



Open Space

- ✓ Garden
- ✓ Play Ground



This training center is affiliated by Sector Council for Green Jobs(SCGJ) and Skill India.
So far we have conducted 3 Suryamitra training programs over here under the empanelment of
NISE,MNRE

Venue Details:-

Education Park Society

Khargone Road, Kodla, Bhikangaon

District:-Khargoon(M.P)

Pin code:-451331

Thank You