



Solar Energy Enterprises in India

*Current context and the
need for incubation*

SELCO Foundation



Data Sources

Total Number of solar energy enterprises identified: **288**

Sources for identification:

- MNRE Channel Partner list 2015
- CLEAN member database 2017
- SELCO Foundation primary research

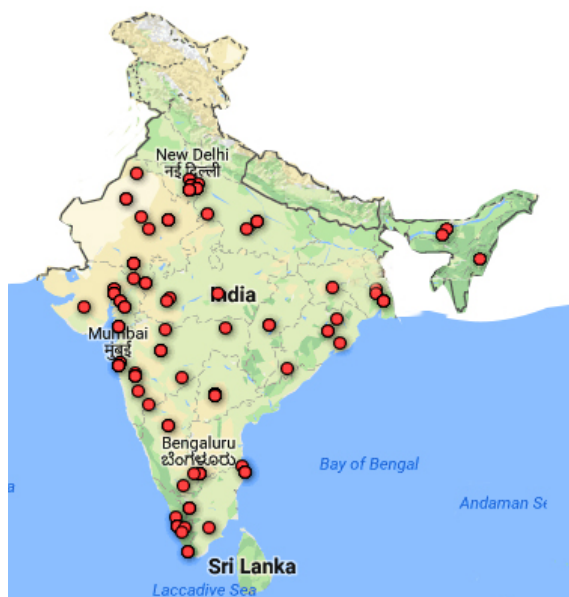
This secondary research draws from publicly available information provided on the enterprises' website or other available online information.

Location of Enterprises

Most of the enterprises are location in or close to metro cities such as Delhi, Mumbai, Hyderabad, Bangalore. Next higher density of enterprises are present in the Ahmedabad, Chennai and Kolkata regions.

In the States of Uttar Pradesh, Jharkhand, Orissa and the North Eastern States, where there is a larger need for energy access, there is a dearth of energy enterprises that are dedicatedly located in these regions.

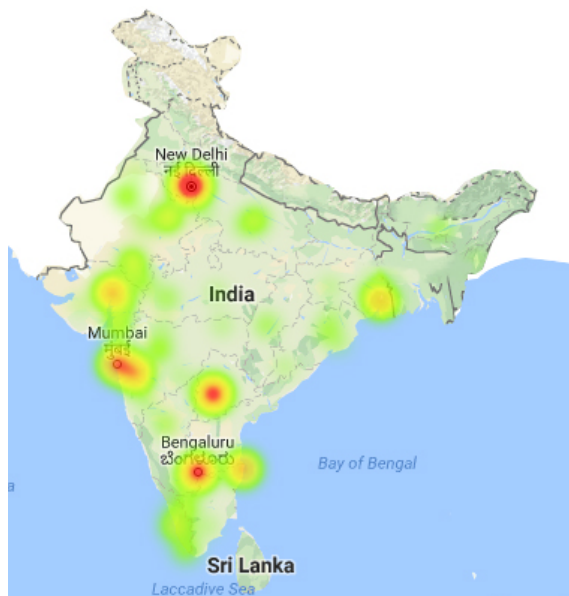
Location of Enterprises



Household Electrification %



Density of Enterprises



Types of Enterprises

BY CATEGORY

Manufacturers



System Integrators



Service Providers



Solution Providers



BY TECHNOLOGY

Solar Plants



Rooftop Solar



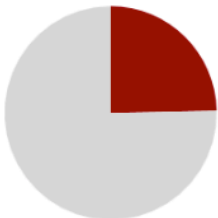
Solar Home Systems



Solar Lanterns



Solar Water Heaters



Solar Water Pumps



BY BUSINESS MODEL

Own Servicing



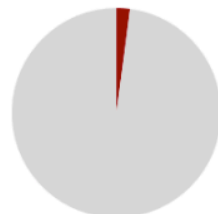
Outsource Servicing



Consultancy



Franchisee



Dealership



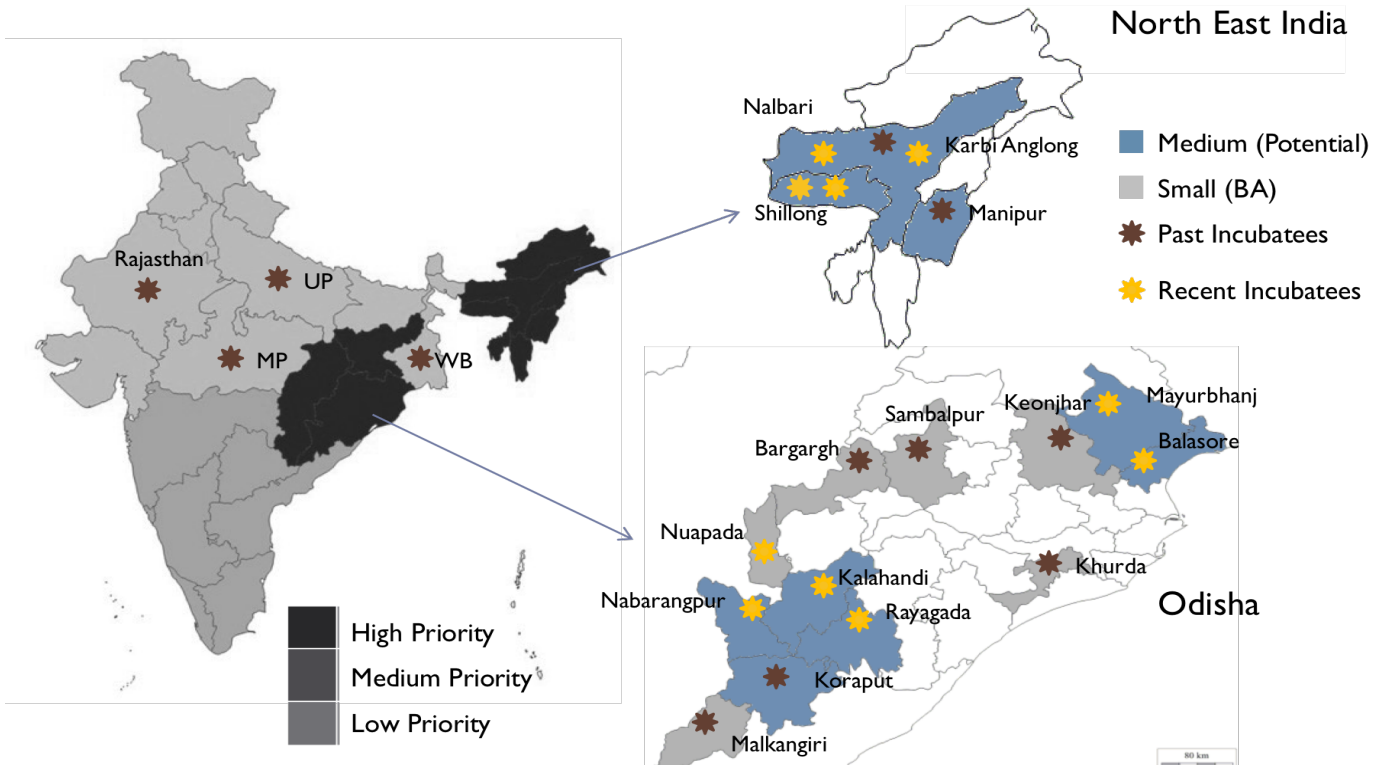
Energy Access in Rural Service Networks

- Out of the 288 enterprises identified, only 60 of them deal with solar home energy systems, either through standalone systems or minigrids, which are both means to deliver energy access.
- Out of these 60 enterprises, only 9 of them report to providing their own servicing for the systems they install. This is one of the key gaps in the solar energy enterprise ecosystem in India.
- Out of these 9 enterprises, one is SELCO, and three more are current or former incubatees of SELCO - Boond, Mangaal and Abha innovations.
- To deliver sustainable energy access in underserved areas, there is a need to identify, incubate, and build the ecosystem for energy entrepreneurs and enterprises in these areas.



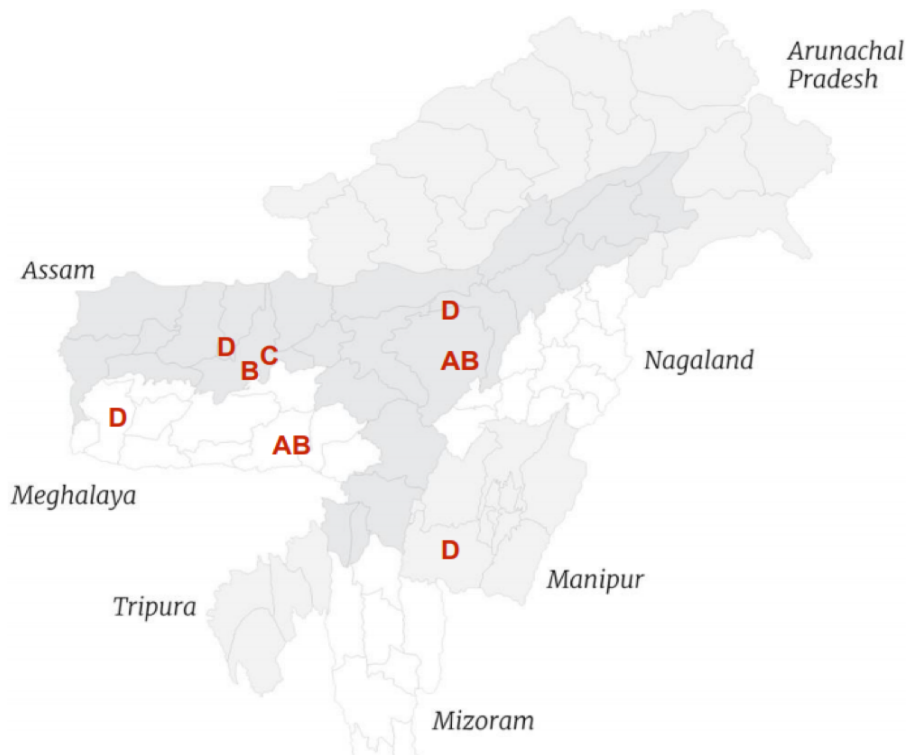
SELCO Incubation Companies: Presence and Incubatee Listing

INCUBATEE LOCATIONS



PARTNER LABS LOCATIONS

- Don Bosco (2)
- Entrepreneur Development Institute
- RRTC
- RWUS
- Centurion University
- Sualkuchi
- Bethany Society





Suraj Choudhary

Suraj Solar Enterprise

Year Incorporated: 2015

Scale of Operations: Micro

Identification:

Technical training program at Regional Rural Training Center (RRTC) in October 2015

About the Enterprise

Suraj Solar is an early stage start-up that is enthusiastic about creating sustainable solutions for rural households



Area of Operations

Suraj works in the Nalbari district of Assam, which is not very far from the State capital of Guwahati. The northern part of the district has hilly terrain, bordering Bhutan.



Work Completed

- Installed 32 Solar street lights , 4 solar home light systems and 5 small light systems.
- Recently, Assam Gramin Vikash Bank, Nalbari branch has sanctioned Rs. 300000 for the solar business under the Prime Minister Employment Guarantee Program.

Work Planned for Next 1 Year

- Demonstrations in 10 new areas, identify 50 beneficiaries and submit proposals to local banks to finance atleast 100 customers.
- Sewing machines and blacksmiths have been identified for sustainable energy interventions.



Fazle Illahi S.H.A. Muztaba

Envo Business Solutions Pvt Ltd

Year Incorporated: 2016

Scale of Operations: Medium

Identification:

Workshop organized by SELCO Incubation and Indian Institute of Entrepreneurship, Guwahati in 2012

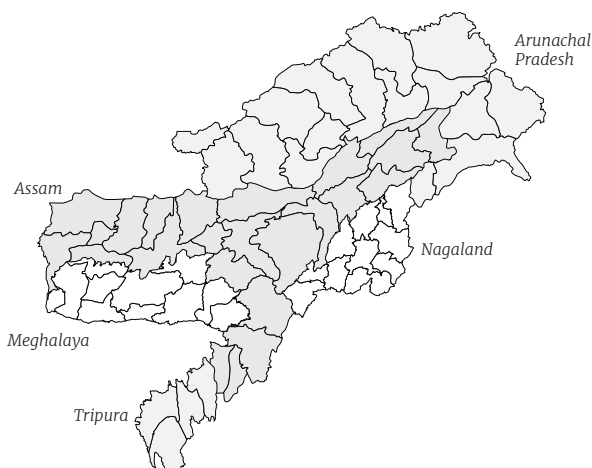
About the Enterprise

Fazle is an ex- Banker, presently heading the rural energy enterprise with a vision to improve living standards of of BoP consumers who lack reliable access to electricity. With interventions in basic lighting, health, education, etc. Envo has impacted the life of around approximately 22000 rural population in Assam and Meghalaya



Area of Operations

Fazle works across the North-Eastern States of Assam, Meghalaya, Arunachal Pradesh, Nagaland and Tripura. Their main office is in Guwahati, and the transportation of materials over long distances can be very challenging.



Work Completed

- Home Lighting - 500 Households in state of Assam and Meghalaya
- Street Lighting System- 700 Systems in 25 Villages impacting 3500 Households
- Healthcare - 4 Solar Powered Boat Clinics covering a population of 45000 living in river islands of Brahmaputra in four districts of Assam, and 3 PHCs - Covering a population of 25000 in total.
- Solar Lab - 2 Nos providing Solar technician training
- Solar Powered Rural ATMs - 20 Nos in State of Assam and Meghalaya
- 50+ Solar based livelihood and productive loads

Work Planned for Next 1 Year

- To work more on eco system development of Health, Education & Livelihood. Solar Power 5 more boats, 10 more PHCs and implement 100+ solar based livelihood solutions
- Increase the Home Lighting Portfolio to 1500 more Households



Deep Barman

Barman Solar Enterprise

Year Incorporated: 2016

Scale of Operations: Micro

Identification:

Technical training program at Regional Rural Training Center (RRTC) in October 2015

About the Enterprise

"Deep Solar is an early stage start-up that is enthusiastic about creating sustainable solutions for rural households"



Area of Operations

Deep works in the Nalbari district of Assam, which is not very far from the State capital of Guwahati. The northern part of the district has hilly terrain, bordering Bhutan.



Work Completed

- 20 home light systems, 35 street lights, 2 e-rickshaw
- 10+ solar based livelihoods in Nalbari (e-rickshaws, demo activities)

Work Planned for Next 1 Year

- Demonstrations in 10 new areas, identify 50 beneficiaries and submit proposals to local banks to finance at least 100 customers.
- Sewing machines and blacksmiths have been identified for sustainable energy interventions.



Joysing Teron

Hills Solar Power

Year Incorporated: 2016

Scale of Operations: Small

Identification:

Workshop at Entrepreneur Development Institute, Guwahati in 2016

About the Enterprise

Joysing hails from Langmoukwai village in Krabi Anglong district, and is working on building a strong rural energy enterprise with servicing and maintenance support. The road to grounding their enterprise has not been smooth. Karbi Anglong is one of the most backward districts of Assam with poor communication and characterized by frequent bandhs



Area of Operations

Joysing works in the remote areas of Harmen district, Karbi Anglon in Assam. The terrain is extremely challenging, especially during the rains, when the villages almost become inaccessible. In most parts of the district, power is cut off for months.



Work Planned for Next 1 Year

- 50+ Homelighting systems installed so far, along with 100+ installations for projects being carried out by IIT Madras.
- Conducted 4 SHG meetings in association with LBRS bank.
- Created enquiries with 30 traditional women weavers for DC motors for Jotors

- Two demonstrations each for solar powered Printers & sewing machines in Karbi Anglong areas.
- Business plan preparation is also underway.



Rural Women Upliftment Society (RWUS)

Year Incorporated: 1990

Scale of Operations: Small

Identification:

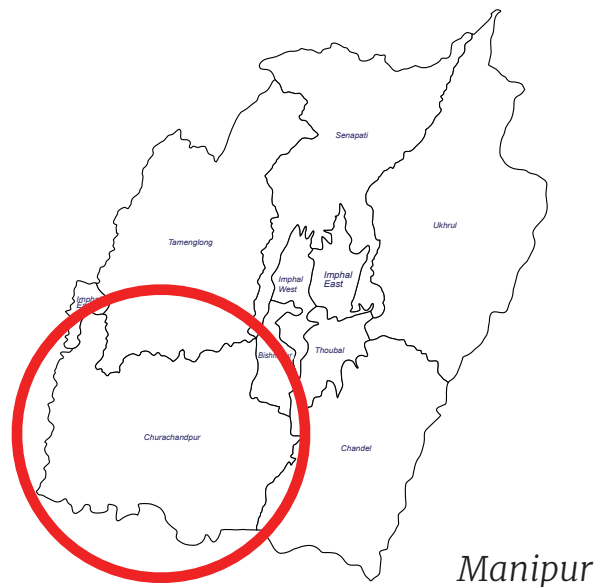
Through Manganal, another incubatee of SELCO

About the Enterprise

The desire to help rural communities, uplift them from their socio-economic condition and helping them to protect and preserve their environment and resources and adopt clean and renewable energy motivated the organization to be in this sector.

Area of Operations

They are located in Churachandpur in Manipur State, and work in different areas of North-East India.



Work Completed

- 250+ Solar home systems through Financing (Revolving funds, Canara Bank and Vijaya Bank)
- 15+ Solar powered livelihoods (Sewing machines, Tailoring Training Centre)
- Micro Credit on Solar Power System, such as Solar Home Lighting, Solar Water Heater, Solar Street Light and Solar Sewing Machine

Work Planned for Next 1 Year

- Reach 300 households and 50 solar livelihood solutions
- To reach interior areas of the district where power supply is negligible.
- To train youth on skill development by setting up resource center at RWUS office.



Kaikha Sapriina

MOSONiE Socio- Economic Foundation

Year Incorporated: 2016

Scale of Operations: Small

Identification:

Meeting at "Unreasonable lab" by Deccan centre for Innovation, Feb 2016

About the Enterprise

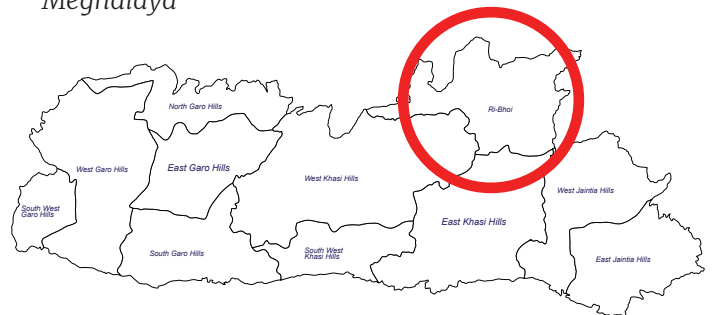
Seeing the living conditions of the villagers with no good road, no health care, no proper schools, no electricity or poor supply, no mobile connectivity, and the occupation in high risk labour with meager income and fast depletion of the resources lead MOSONiE to start these activities



Area of Operations

MOSONiE works in the Ri- Bhoi District of Meghalaya, specifically in Jirang and Umling Blocks. These areas used to be hus of illegal minig activities, where people have lost their livelihoods since these activities were banned.

Meghalaya



Work Completed

- Installed 75 homelighting systems through a revolving fund
- Digital education systems installed at two schools
- Two technical training programs conducted

Work Planned for Next 1 Year

- Install 50 systems per month with financing from Rand De (peer to peer financing) and Banks
- Identified a scope for solar powered milking machines and water pumps



Prabhat Pradhan

Mukti Solar

Year Incorporated: 2015

Scale of Operations: Medium

Identification:

Entrepreneur Identification Workshop conducted in Koraput district in 2014

About the Enterprise

Prabhat had 2 years of experience as a entrepreneur in solar field. He used to distribute solar lantern through NGOs in rural tribal schools. After the workshop he got interested to start a service based solar enterprise.



Area of Operations

Prabhat works in Nabarangpur, Kalahandi and Koraput areas of Odisha. These are completely tribal areas with interior villages inside forested areas, where the awareness of solar is low, as is the financial literacy.



Work Completed

- Revenue around INR 8,000,000 in 2017-18
- 600 Home lighting systems through financial linkage from Syndicate bank and Indian Bank
- Has implemented 10+ digital education and study lighting programs in rural schools and 20+ livelihood projects

Work Planned for Next 1 Year

- Plan for the next 2-3 years
- Solar home solutions through bank finance linkage for 1500 households
- Up front sales of 150 solar inverter system
- At least 50 innovative livelihood projects



Upendra Sahoo

Tarini Enterprises

Year Incorporated: 2007

Scale of Operations: Small

Identification:

SELCO Incubation team field visit in 2015 to identify existing entrepreneurs

About the Enterprise

Upendra has had geographical exposure during previous work experiences. He has been talking to customers, has built strong relations, creating a customer base. Tarini enterprises has been actively involved in educating people about solar power and increasing awareness about the same with the help of demonstrations.



Area of Operations

Out of 3718 villages in the Mayurbhanj district where Tarini Enterprises operates, only 857 have been electrified so far by the government. Villages connected to grid get 4-5 hours of power supply daily.



Work Completed

- Revenue around INR 6,000,000 in 2017-18
- 100 Solar homelighting systems through bank financing from Odisha Grameen Bank
- 10 Solar based livelihood solutions (printing and photocopy centers, blacksmith blowers and sewing machines)

Work Planned for Next 1 Year

- Plan for the next 2-3 years
- Solar homelighting through bank finance linkage for 3000 households
- Up front sales of 400 solar inverter systems
- 1000 street lights
- 100 different innovative livelihood project.



Sapan Kumar Basantia

Shreyas Solar

Year Incorporated: 2011

Scale of Operations: Micro

Identification:

Entrepreneur Identification Workshop conducted in Koraput district in 2014

About the Enterprise

"Sapan was a partner of ABHA enterprise in Koraput district. Having years of field experience with ABHA, Sapan works by creating a strong network of rural Business Associates to reach remote areas."

Area of Operations

Sapan works in the Koraput and Rayagada districts of southern Odisha, which has a number of remote and forested villages in a hilly mineral rich terrain, bordering the neighboring State of Andhra Pradesh



Work Completed

- Revenue around INR 1000000 in 2017-18
- More than 50 homelighting systems
- 5 solar based livelihood solutions (printing and photocopy centers, blacksmith blowers)
- 30 streetlights by engaging with local political leaders

Work Planned for Next 1 Year

- Plan for the next 2-3 years
- Solar homelighting through bank finance linkage for 1000 households
- Up front sales of solar inverter system 50nos.
- 300 street lights through local funds
- 30 different innovative livelihood projects



Karunakar Behera

Auroshree Solar

Year Incorporated: 2016

Scale of Operations: Micro

Identification:

Workshop on environment clean energy conducted by Scene Consultancy at Bhubaneswar.

About the Enterprise

"Karunakar used to run a non-profit organization called Mighty Club. As part of project with TERI, he had installed 300 solar homelighting systems in Nilagiri block of Balasore district. It was during this time that he started his enterprise"

Area of Operations

Karunakar works in Balasore Keonjhar districts of northern Odisha, bordering the State of West Bengal



SELCO Foundation In Odisha

Work Completed

- Revenue around INR 1000000 in 2017-18, mostly from solar homelighting systems

Work Planned for Next 1 Year

- Plan for the next 2-3 years
- Solar homelighting through bank finance linkage for 1500 households
- Up front sales of 300 solar inverter systems
- 1000 street lights
- 100 different innovative livelihood projects"



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