

United Nations Foundation's Energy Access Practitioner  
Network and the Clean Energy Solutions Center: Webinar

Opportunities and Challenges for  
the Rural Off-grid Lighting Distribution  
Market in India  
*presented by IFC and Frontier Markets*

 **Frontier Markets**

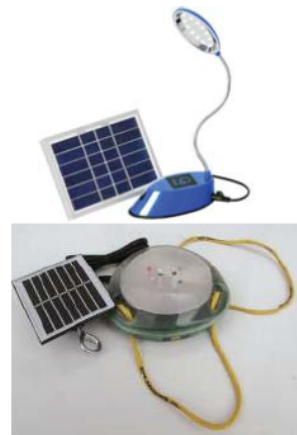
---

5th March 2014

# Scope of the Presentation: Products

- Off-grid lighting space can cover a magnitude of different solutions
- Scope here on products which can be covered by IEC testing for off-grid lighting products
  - smaller off-grid lighting solutions: solar task lights, torches, lanterns etc.
  - plug and play solar home systems

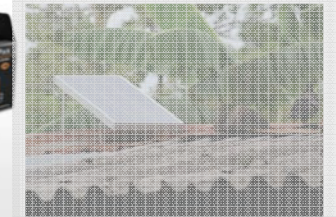
Solar lanterns



Solar kits



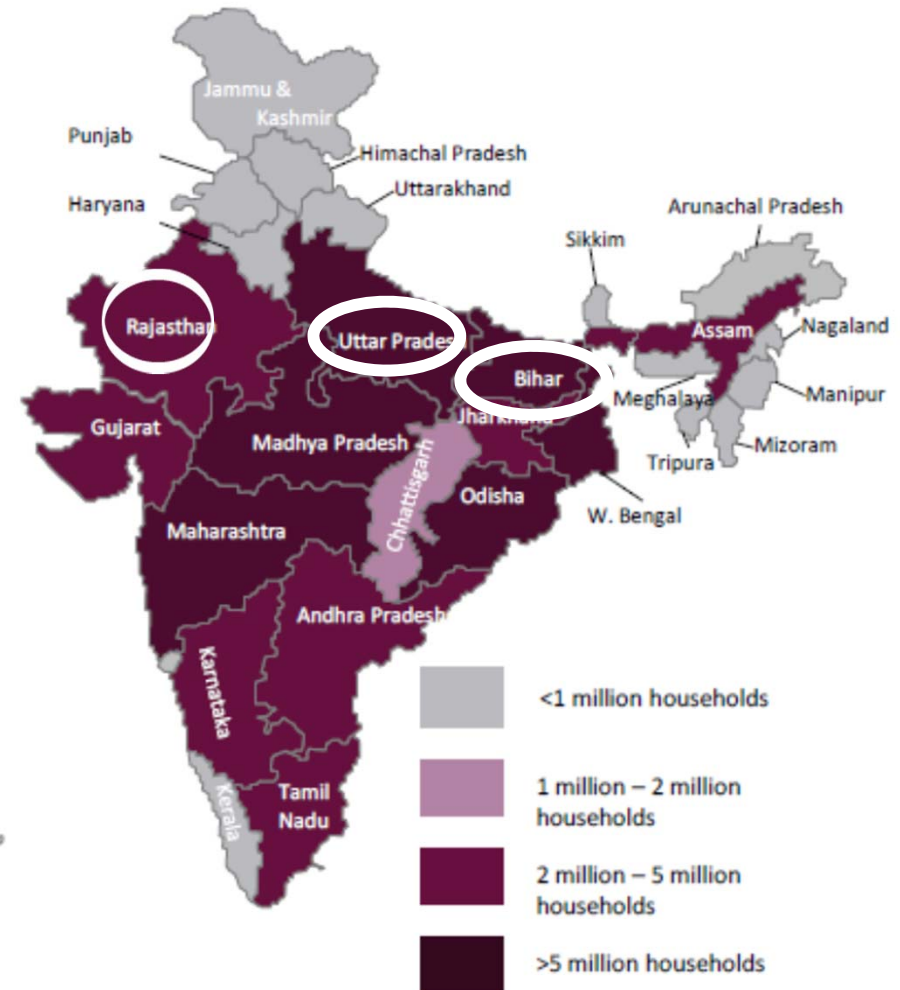
Solar home systems



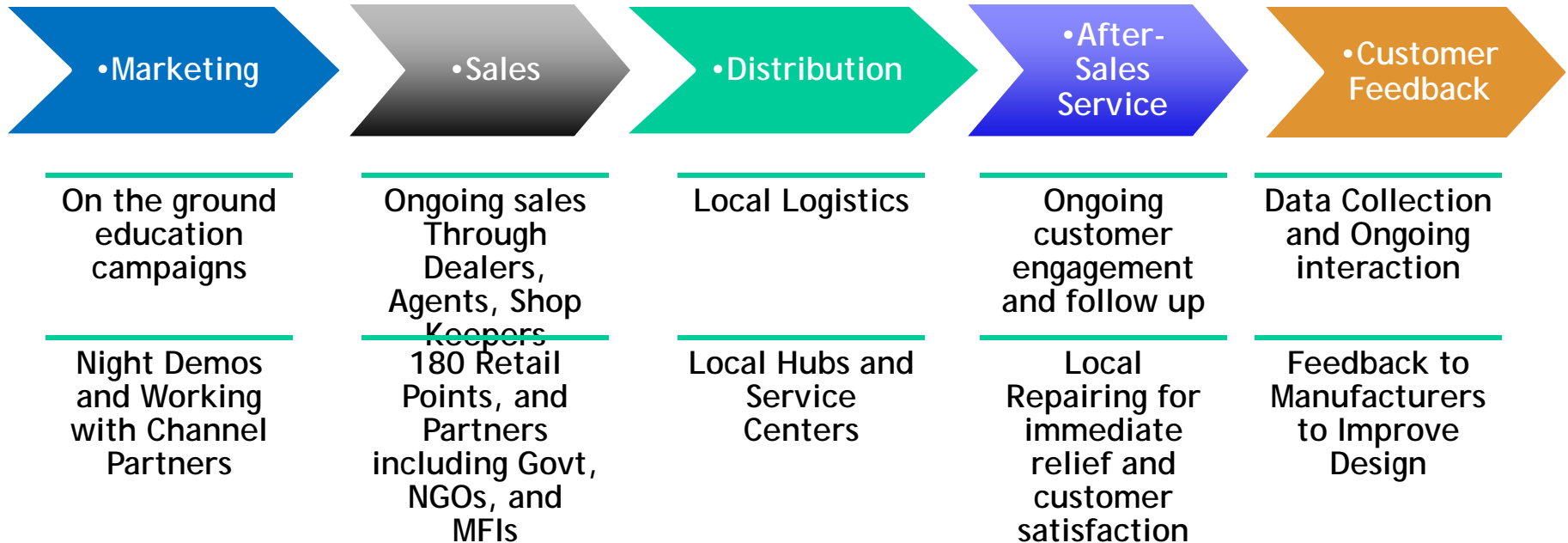
See [www.lightingglobal.org](http://www.lightingglobal.org)

## Scope of the Presentation: State Focus

- Focus and experience-India (states of Rajasthan, Bihar and Uttar Pradesh in particular), many of the challenges may be pertinent to other states or countries
- 3 States highlighted here- Rajasthan, Uttar Pradesh and Bihar:
  - Jointly a total population of 370 million
  - Equal to 116% of the total US population and 50% of that of Europe



# Frontier Markets



**We have built an end-to-end supply chain for last mile distribution of Solar Solutions**

## Why Conventional Models cannot work for Clean Energy appliances

- (*~ 15 mn retail outlets in India supported by a huge wholeseller universe, yet....* )
- **Push Vs. Pull** - demand has to be created at the consumer level
- **Infancy of “brands”** -does not help demand creation
- Current **low sales volumes** is not enticing enough for large private players and channel partners
- Absence of **government interventions** that support commercial scale-up
- Low **purchasing power** of the customers leads to difficulties in customer cluster formations-increasing supply chain issues
- Absence of **Standardized/Quality Products/after sales service** dissuades the established channels-risk on current business

## Challenge 1: COST

Carry bag costlier than the goods!....



1. Trade has to be incentivized: push product
2. Cost to sell (+ channel margins + Incentives+ credit) could be > 35% of MRP\* (compared to FMCG margins of <25%)
3. Low initial volumes compensated by bigger margins to meet the trader's ROIs
4. Warehousing /Transportation costs high: width and depth of market combined with low volumes
5. Working Capital requirements are high to offset credit to the channel and maintaining stocks at all stages of the distribution chain.

### Opportunity:

Projected annual growth rate of these solar off grid lighting appliances in India p.a. is estimated at 45% - high compared to brown goods (25%) white goods (15%)

\*Maximum Retail Price

# Key challenges for rural distribution of off-grid lighting products

1. COST
2. LOGISTICS AND ECOSYSTEM
3. PRODUCT QUALITY
4. FINANCE
5. INFORMATION & COMMUNICATIONS TECHNOLOGY

## Challenge 1: COST

Carry bag costlier than the goods!....



1. Trade has to be incentivized: push product
2. Cost to sell (+ channel margins +incentives) could be up to 40-45% of MRP\* (compared to FMCG retail margins of <25%)
3. Low initial volumes compensated by bigger margins to meet the trader's ROIs
4. Warehousing /Transportation costs high: width and depth of market combined with low volumes
5. Working Capital requirements are high to offset credit to the channel and maintaining stocks at all stages of the distribution chain.

### Opportunity:

Projected annual growth rate of these solar off grid lighting appliances in India p.a. is estimated at 45% - high compared to brown goods (25%) white goods (15%)

\*Maximum Retail Price



## Challenge 2: LOGISTICS & ECOSYSTEM

### Logistical difficulties, scattered market...

1. 634,000 rural villages covering a population of 839 m
2. 66% of rural population live in villages below 10,000 population
3. Number of rural retail outlets 9.8 million

*The marketer faces the challenge of prioritizing the markets: actual need is in the deep rural pockets which are the most difficult to reach with potentially prohibitive transportation costs*



*Monsoon roads, Assam - India*

### ... but Government can help build a robust Business Ecosystem

Government intervention to support private enterprise with required infrastructure, standardized quality benchmarks, uniform taxation and related policies, can accelerate growth

**Opportunity: Large population waiting to be tapped!**

## Challenge 3: PRODUCT QUALITY

1. No established off-grid lighting “Brands” yet - companies are trying
2. No established QA seal/mark or brand for end consumers
3. Market Spoilage: low quality products with no after sales make it difficult to win customers-many have bad experience + now low expectations
4. After Sales is a key requirement which the customer expects and it is either missing or difficult to manage logistically
5. Lack of educated/trained manpower to sell or service



*IFC team explain IFC QA Assurance, Bihar India*

**Opportunity: Brand building and awareness raising will increase volumes and lead to better margins and again increased marketing ...**

## Challenge 4: FINANCE

Funding the channel is a big challenge - both for SMEs and End consumers

1. Manufacturers have working capital issues -purchase of raw material, credit to distributors, delays in collections..
2. Distributors have the same issues while dealing with Manufacturers and Retailers
3. Retailers too have to give credit to end consumers as well as stock slow moving goods
4. Products in the 1000-4000 Rupees category difficult to borrow against (although affordability increasing in India)

### Opportunity:

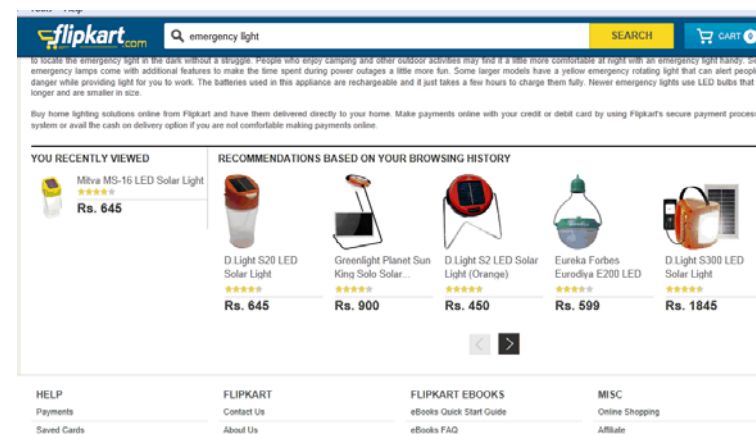
2018 market estimated at 500m USD for solar lighting appliances (Dalberg)

# Challenge 5: INFORMATION & COMMUNICATIONS TECHNOLOGY

- Mobile phones have made an inroad, the usage remains very basic
- Lack of ICT (information and communications technology) facilities for selling, collection, information gathering and MIS development
- E-payment in its infancy - as per RBI guidelines those with a bank account/credit card can use the mobile banking, while more than 50% villages are still unbanked
- India's e-Commerce restricted to urban areas; internet usage in rural areas is low; inadequacy of vernacular content on e-Commerce sites

## Opportunity:

- As ICT proliferates in the rural areas (e.g. CSCs, Kiosks) will open a wealth of opportunities for growth and payments
- eCommerce: It is rapidly growing phenomenon in India and it is expected to be 60 billion US\$ market by 2023 (currently at 3 billion) or 7% of total retail sales



## DISTRIBUTION MODELS

- The Village Level Entrepreneur: Proprietary
- The Village Level/ Migrant Entrepreneur Model
- The Multi Channel Approach
- The MFI Channel/Business Correspondent Channel
- The Large Corporates-in house channel
- Other distribution models

## The Village Level Entrepreneur: Proprietary

**Greenlight Planet** has its own direct to village network of sales agents selling Greenlight Planet designed and branded products .

- Village Level Entrepreneurs (called “Sun King Business Associate”) who go from house to house selling solar lanterns
  - Identified by frontline managers of Greenlight Planet.
  - These are typically well-known individuals in their communities, hence can ideally overcome the barriers of trust that make introducing a new product quite difficult in remote areas
- Greenlight Planet has >5000 Saathis in India operating out of 5 different (energy deficient) states out of the 29 States
  - The SBAs earn commissions on each lantern they sell, estimated at approx. 50 US\$ per month

# The Village Level/ Migrant Entrepreneur Model

**The VLE model: Dharma Life** has developed a village-level entrepreneur network that is educating consumers and selling a range of products across categories including energy access, indoor air pollution, access to safe drinking water, hygiene, among others.

- reached 1500+ entrepreneurs across 5 states
  - target respected village individuals, train them to become Self-Sufficient Empowered VLEs
  - earn on average INR 2000 per month
- **The “Migrant” VLE model: Pollinate** operates in urban areas with migrant slum communities that do not have access electricity. Pollinate first finds local people who are passionate about working with slum communities in their area. It then trains them to provide affordable solar energy units to these communities. This channel also leads to products going to the rural homes of these migrant customers. Around 3500 solar lights have been sold to date to over 450 communities.

**The Franchisee Retail Model: Defmart** (nascent company) trying to leverage retired army personnel who have returned to their villages, supporting them with a franchisee model retail outlet called “Urja Kendra” -currently operational in 3 States with 9 locations-with focus on delivery, installation and after sales service

# The Multi Channel Approach

**d.light Design** uses a multi channel approach:

1. Public sector vehicles like HPCL and BPCL-cooking gas channel contributing to more than 50 % of the sales. This is a now proven model for d-light having grown from 20% to 50% of total sales (on a growing base) in the last 3 years.
2. Use of CSC (Common Service Centers) VLE models with Organizations like Sahaj to sell products. This is the 2<sup>nd</sup> most useful model for them contributing 15% to their total sales annually.
3. Government bodies like the Post & Telegraph department
4. The MFI channel-SKS and Fullerton members.(Both- this and the P&T are at 10% share of sales each)
5. Open market distributors-use of general purpose consumer products distributors to sell their lanterns



# The MFI Channel

## Need of the MFIs:

1. Revised government norms capping the % interest that the MFIs can charge their customers thereby creating the need for additional income streams to meet increasing cost of operations
2. Good quality/tested products can increase the stickiness for the MFIs customer base and also give a dual margin to the MFI-income from product distribution as well as margin on the loan extended to buy the product

## Strength of the MFIs for Distribution

1. Can aggregate demand in scattered rural markets with existing customers
2. Use the existing approach and trust of the customers to push a new category like solar
3. Finance the end customer to convert need and demand into sales
4. MFI clients needs matching that of products like solar lamps (lower income-off grid etc.

# The MFI Channel/Business Correspondent Channel

There are issues/pitfalls to avoid for the MFIs-

1. In case the product turns out to be of inferior quality then the existing customer base can become negative towards the MFI.
2. The MFIs are not allowed to invoice products as per Central Bank guidelines and have to use the local distributors of the Manufacturers for the same

However this is a growing channel and for the short to medium term it is being used as a prime channel by the manufacturers

**Business Correspondent Channel** Under the financial inclusion scheme of the Central Bank of India (RBI) the banks have taken the help of the BC model to extend banking facilities to the rural customers. These BCs can open new accounts and accept deposits etc. The same channel has also been used for sale of solar products as they have reach to the final user just like the MFIs have.

## The Large Corporates-in house channel

- **Large Corporates like** Tata, Mahindra+ global companies like Schneider, Total are increasingly in the off-grid solar lighting space in India.



- Strong trade channels and very strong brand recognition built over decades, especially the Indian brands
- Corporate culture of trying to leverage and support sister / parent companies and infrastructure (e.g. systems, communications)
- Potential instant access to the entire retailer/customer base who have been served through this channel
- Potentially strong balance sheets to support initial growth phase



- Silos in companies may have hampered cross leveraging
- Likelihood that the challenges on distribution and costs may remain even for these large companies - rural distribution is tough!

## Some other distribution models

- **Public Private Partnership Model** in collaboration with the Government-Under a government subsidy model Organizations like Srei Sahaj appoint VLEs in villages with infrastructure (office and computers) to handle government records disbursements etc. This then becomes a significant channel for product sales. Sahaj itself has access to approx. 25000 villages in just one State of Bihar thereby reaching a large % of the rural customer base of the state
- **Micro enterprise model** The Energy and Resources of India appoints individual entrepreneurs in villages who purchase solar panels and several appliances which are charged and then rented out for a fee to individual users
- **Rural Retail chains-** The “Indian Tobacco Company”, ITC, an Indian Corporate has created ICT network in villages for procurement of grains headed by a local “Sanchalak”. In addition they have created the “Choupal Saagars”-or rural retail outlets for selling various categories of consumer products .

## Pros & Cons of various VLE/Direct Sales Models

- Proprietary VLE model gives control on the last mile and strong end consumer relationship
- Open source/Clean energy VLE model means access to large numbers of different groups of VLEs
- MFI and Banking correspondents have the advantage of last mile sales persons as well as a ready customer base from their financial products
- Large Corporates have established trade channels, strong brand, potential balance sheet to support growth



- Can be expensive to keep them trained, motivated and sustainable just on one Company's products-potential high attrition



- However it has no fixed measure on sales and assigning target-hence the entire sales management process is relatively weak



- Product failure/after sales issues - while a challenge across the board is particularly damaging for FIs where these have clubbed this with a loan Cautious with scaling. Limit on the amount that can be loaned over existing loans



- Yet to truly capitalize on their presence and distribution channels for smaller off grid products; internal silos may prevent true cross fertilization;

# Thank you.

Questions taken after Dalberg Presentation