State of Energy Access in India

Towards Energy Access in India: The Role of End-user Engagement around Quality Lighting Solutions

29th March 2016
Energy Access Practitioner Network (EAPN)

GOALS:
- Promote new technologies and innovative financial & business models,
- Provide a platform to convene and connect a range of stakeholders around new partnerships,
- Facilitate the development and adoption of quality standards.

AT A GLANCE
- The Practitioner Network supports primarily market-led decentralized energy applications towards achieving universal energy access by 2030.
- Over 2,000 members, based in 85 countries and operating in 170 countries.

VALUE
- Members value the Practitioner Network for: information sharing, peer-to-peer learning, networking opportunities, connecting access to finance, enabling partnerships and increased visibility.

Statistics based on responses from the UN Foundation’s 2014 annual survey: “Growing the Network Building Impact”
Clean Energy Access Network (CLEAN)

CLEAN is a technology agnostic, member-driven network of energy enterprises/practitioners in the off-grid clean energy space in India. CLEAN aims to support, unify and grow the decentralized clean energy sector in India.

**Focus Areas**
- Information & Networking
- Skills & Capacity Building
- Technology Standards and R&D
- Access to Finance
- Policy Advocacy

CLEAN has 91 members as of March 2016 with representation across the various off-grid technologies/solutions as well as geographical regions across India.

In little over a year of operation, CLEAN is already being recognized as the go-to entity in the energy access space in India.
Access to Electricity – Census 2011

Nearly 33% of the population do not have access to electricity; dependent on kerosene as their primary source of lighting.
## Lighting/Electrification Market

<table>
<thead>
<tr>
<th></th>
<th>Lighting Products</th>
<th>Home Lighting Systems</th>
<th>Mini-grids (Lighting)</th>
<th>Mini-grids (Electrification)</th>
</tr>
</thead>
</table>
| **Configuration**         | LED/CFL Lanterns (1 – 5 W) | • 10 – 100 W DC  
• < 1 kW AC | 200 W DC; connected to 40 h/h within 100 m radius | kW scale DC/AC; connected to 50 – 400 h/h |
| **Service**               | Lighting + Mobile charging | Lighting + Mobile charging + Entertainment | Lighting + Mobile charging | Lighting + Mobile charging + Entertainment + Productive end-use |
| **Buss. Model**           | Cash sales; MFI loans | Asset financing through rural banks; PAYG | Entrepreneur driven fee for service model |
| **Stage of Market**       | Growth | Growth (boost from the NSM) | Nascent | Nascent |
| **Market Drivers**        | Non-subsidy market | Partial subsidy (40% on benchmark cost) | Subsidy & Non-subsidy models | Requires significant subsidy |
Recent Policy Developments

• 100% village electrification by May 2018
• Key driver for the overall solar PV market in India - revised targets under the National Solar Mission (100 GW, including 40 GW of rooftop solar)
• Off-grid PV Lighting Scheme (LED Systems upto 300 W)
  • < 40 W – Rs. 160/Wp subsidy
  • > 40 W – Rs. 100/Wp subsidy
  • Total Annual subsidy budget – Rs. 1 billion (~ $ 15 M)
• Framework for promoting private investment in mini-grids under development
  • Principles of interconnection/operation when the grid arrives
  • Principles of exit/compensation for stranded assets when grid arrives
• Uttar Pradesh has recently announced a mini-grid policy and draft regulations
Market Status & Key Barriers

• Market Status
  • 2 million solar lanterns and 1 million SHS upto 2013 (IFC estimates)
  • ~ 500,000 SHS through the subsidy program between 2011 – 2015 (MNRE)
  • 2.92 million lighting products sold between January 2014 – July 2015 (GOGLA)

• Key Barriers
  • Lack of a level playing field – kerosene subsidies
  • Non-market based distribution/state programs
  • Lack of standards/quality assurance
  • Competition from cheap & non-standard imports in a price conscious market
Thank you!

CLEAN
hari@thecleannetwork.org
www.thecleannetwork.org

EAPN
info@energyaccess.org
www.energyaccess.org

CLEAN Resource Partners

CLEAN Charter Members