

LIGHTING ASIA

INDIA PROGRAM

Catalyzing Markets for Off-Grid Lighting

AN INNOVATION OF



**International
Finance
Corporation**

World Bank Group

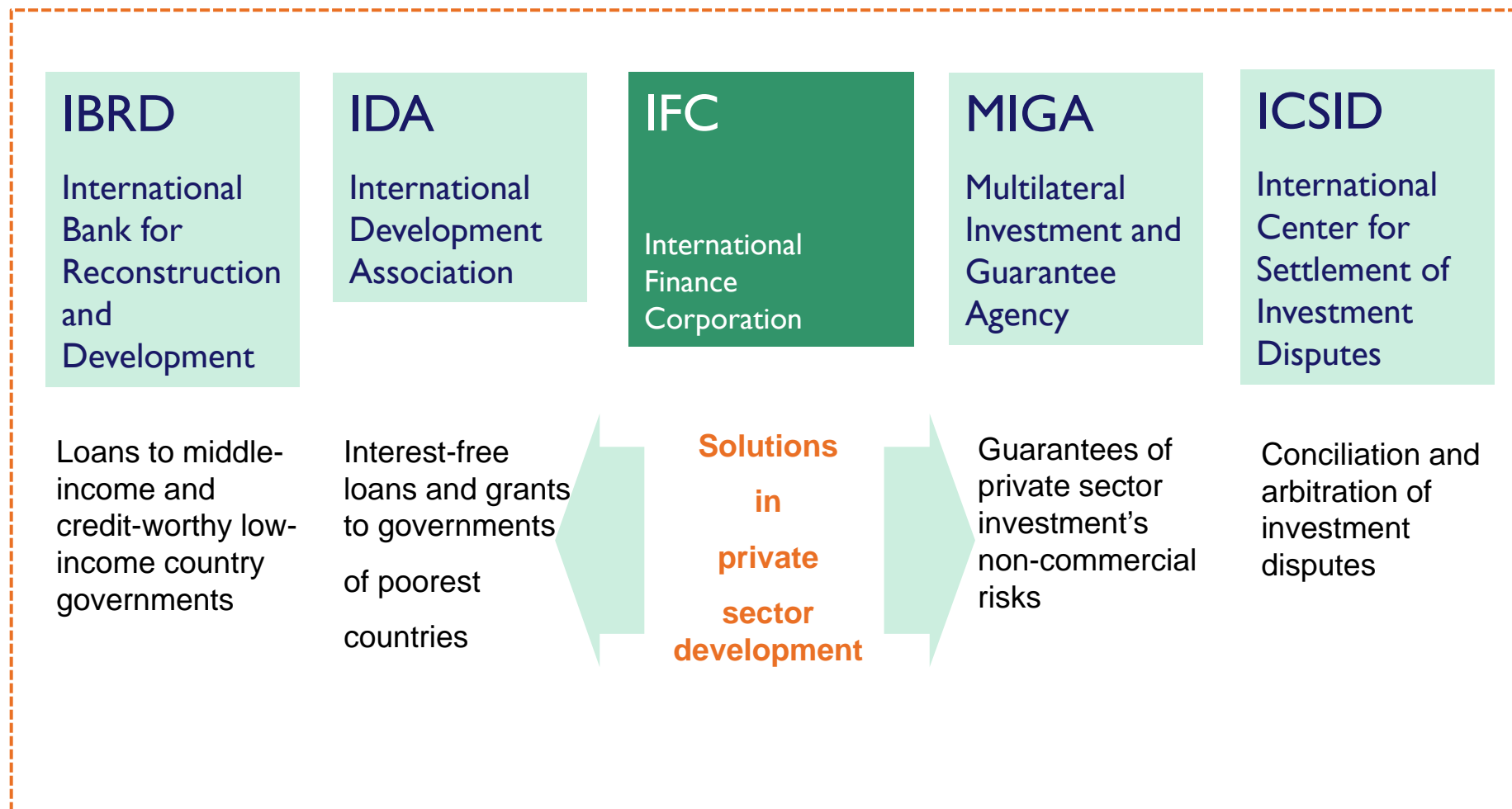
In partnership with  

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

5th March 2014

IFC: Part of the World Bank Group



IFC's Purpose

- To promote open and competitive markets in developing countries
- To help generate productive jobs and deliver essential services to the underserved
- To support companies and other private sector partners where there is a gap
- To catalyze and mobilize other sources of finance for private sector development



1.6 billion people in the world live without electricity



400 million
are in India

- Majority of these people live in rural areas and rely on fuels such as kerosene for their lighting needs.
- These fuels create less light compared to modern lighting products, are expensive and have significant negative impacts on both health and the environment

Kerosene is...



Kerosene is **dangerous**

- Burn risk
- Explosions from adulterated kerosene
- Inhalation
- Ingestion causing poisoning

Kerosene is **expensive**

- USD 4 billion spend
- In India, households spend USD1.8 billion on kerosene and the government an additional 2.2 billion

Kerosene is **polluting**

- 6.7 billion of liters of kerosene are used on lighting in India producing 18.1 m tons of carbon dioxide emissions

Kerosene is **the most commonly used fuel source for lighting by the off-grid population in India**

Switch to LED-based off-grid lighting

- **Economic**
 - fast payback for buyers, on a macro scale more cash stays in country
- **Service Quality**
 - better lighting and added non-lighting service (mobile charging, etc.)
- **Health and Safety**
 - reduced fire and fuel ingestion risk
 - reduced exposure to particulate matter (PM)
- **Environmental**
 - Reduced GHG and black carbon emissions

Portable Solar Lanterns



Solar Home Systems



What's the market?

- 400mn that do not use electricity as primary source of lighting (Census 2011)
- Represents 33% of the Indian population

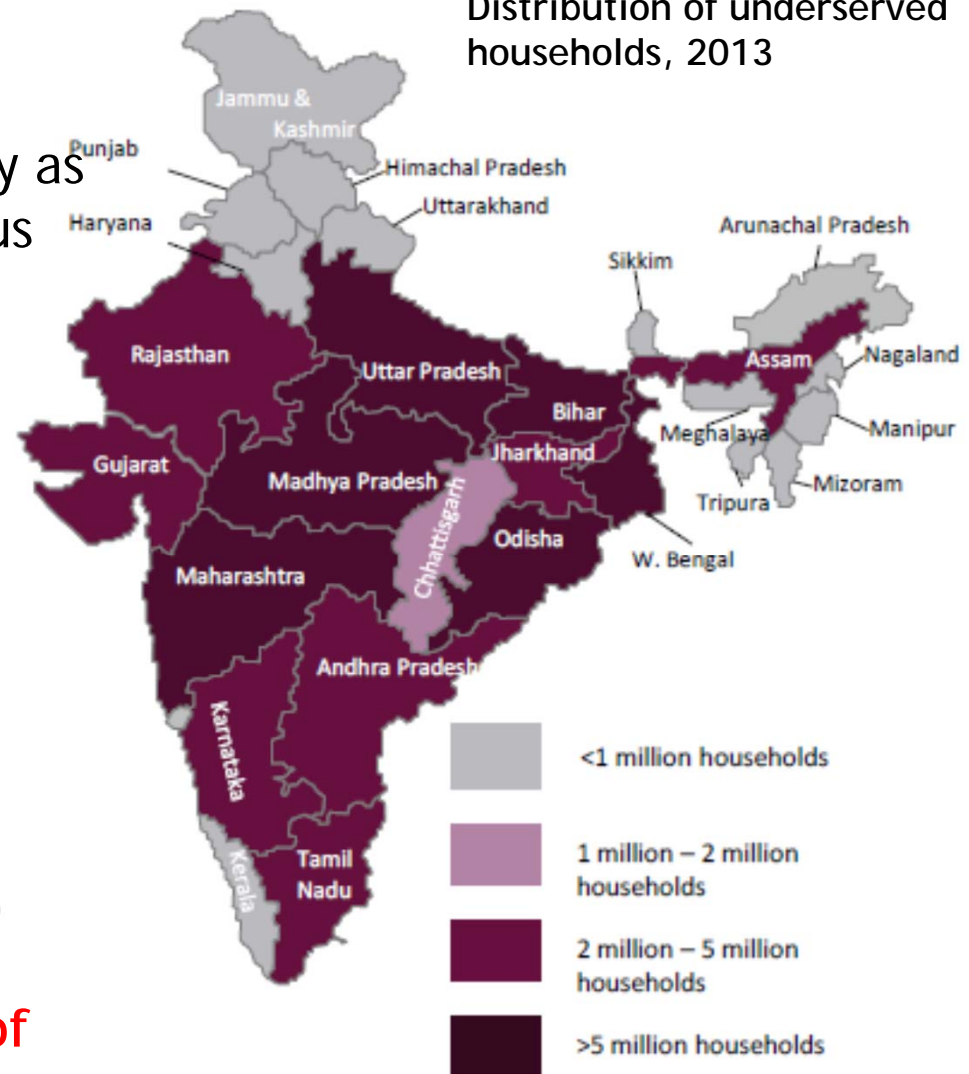
Can they buy?

- 205mn can afford a basic solar lighting systems of which -
 - 50mn can afford a multi-functional system
 - 10mn can afford a basic SHS,

So what's the penetration rate of appliances then?

Less than 5%



Distribution of underserved households, 2013



Market has not taken-off owing to challenges

1. Market spoilage by: Poor quality products, Subsidy Programs
2. Lack of awareness on solar solutions, low trust in brands
3. Competition from kerosene subsidy
4. Lack of finance (savings/credit) for up-front payment
5. Lack of finance for SME companies to scale the market
6. Limited viability of last mile market for manufacturers
 - Quality products are not accessible

Lighting Asia/India Program

Quality Assurance 	Consumer Awareness 	Market Information and Research 	Supply Chain, Distribution After Sales 
<p>Product quality is critical in order to ensure sustainable growth</p> <p>Prevent market spoilage from low quality products</p>	<p>Consumer Awareness and Market Outreach to stakeholders (MFI, Rural Banks, Distributors)</p> <p>Uttar Pradesh, Bihar and Rajasthan 2014</p>	<p>Detailed market entry mapping of specific regions; Consumer Preferences; Films, Case Studies, Technical Notes, Conference, website</p>	<p>Business Linkages, Forging Supplier/distributor relationships</p> <p>Exploration of product recycling and disposal</p>
<p>\$\$\$ Access to Finance: Support A2F Solutions for working, growth capital and end consumer financing; Work on outreach with financial institutions to unlock financing</p>			
<p> Business Support and Associate Program: Support qualifying companies with tailored assistance; develop scalable, replicable business plans attractive to investors</p>			
<p>Clients and Partners: <i>Mini Grids</i> (Minda NexGenTech Ltd, SunEdison Energy India Pvt. Ltd); <i>Solar appliances</i> (Orb Energy Pvt. Ltd, Barefoot Power India Pvt. Ltd, D.light Design, ECCO Electronics Pvt. Ltd); <i>Distributors</i> (Frontier Markets); <i>Payments Solution</i> (Simpa Energy India Pvt. Ltd); <i>Quality Assurance</i> (The Energy and Resources Institute -TERI)</p>			



HELPING BUSINESSES AND TRANSFORMING LIVES