Evolution of Regulatory Framework

India Mini-grids Sector

Lessons Learnt

Common challenges faced by power sector in emerging economies

- Governments balance access, affordability, and operational viability
- Excel at infrastructure creation, but struggle with business operations and O&M
- Political considerations affect tariff fixing and revisions
- Unsustainable tariffs, poor management, transmission and distribution losses leads to logjam and poses challenge for growth

Landmark regulatory actions and achievements

- India Electricity Act 2003 allowed village administrations to enter into agreements with captive power providers
- Mini-grid tariff setting freed from regulatory control
- Regional electricity commissions regulate renewable energy tariffs and pricing, but microgrids and captive power are exempt
- 100% village electrification achieved, focus now on reliability and quality

Mini-Grids in India - Characteristics

- High upfront capex costs ($90,000 per village)
- Average revenue per village: $600-$700 per month
- Operational costs: $300 per month
- Need for minimum portfolio size (75-100 mini-grids) for long-term sustainability
- Importance of concessional debt and blended finance
- Investor friendly regulatory environment required as investment to reach minimum size is of the order of US$ 8M-10M

The Hamara Grid Experience

- Mini-grid developer working to increase rural income through clean energy
- Partnered with Nagaland government for a PPPP project in Mon District
- Project operational in 30 villages, expanding to 75 villages
- Partner network GEAPP, DOEN Foundation, Shell Foundation, Caterpillar Inc., Assist International, Power Trust, NEDFi, NABARD
- Government and Peoples' Representatives support
- Village Council participation

Regulatory Reforms under consideration – India Power sector

- Advance subsidies
- Elimination of cross subsidies
- Direct benefit transfers
- Open access to last mile distribution networks

Thank you