



# REGIONAL MEETING ON SUSTAINABLE ENERGY

FOR ASIA-PACIFIC LEAST DEVELOPED COUNTRIES  
KATHMANDU, NEPAL | 22-23 MARCH 2017

## SESSION II: FINANCING INITIATIVES AND BUSINESS PLANS THAT WORK

Unlocking Domestic Finance

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Rationale for Financing RE Projects

Financing Mechanisms and Instruments

Issues and Challenges in RE Financing in Nepal

Strategies for Unlocking the Private Finance

# Subsidy Vs Credit

**Subsidy: Successful**  
**DELIVERY**  
to the targeted  
beneficiaries

**Credit: Successful**  
**DELIVERY**  
&  
**RECOVERY**

# Rational on RE Financing

- High upfront cost
- Subsidy covers only part of the cost
- Reduces the hassles related to upfront equity
- Timely Financial Closure
- Strong Ownership & Management
- Gradual shift from subsidy to credit (market mechanism)
- Opens up rural market for BFIs
- Contributes to meet BFIs' lending obligation

# RE Financing Initiatives in Nepal

- **Household RE Systems [Biogas, Solar Home System and Metallic Improved Cooking Stove]**
  - Credit facility from 550 BFIs/LFIs/cooperatives
  - ~ USD 10 million credit invested for 45,000 biogas, 20,000 SHS (off-grid) and few MICS
  - Local cooperatives/MFIs take credit risk
  - High repayment
  - Capacity building and regular monitoring



BFIs highly interested to finance household/  
individual owned RE Systems

# RE Financing Initiatives in Nepal

- **Community RE System: Total 40 MHPs financed**
  - Two Partner Banks (HBL and NMB) financed for 27 MHPs worth of USD 525,000 under MHDF
  - Tourism Development bank financed 5 MHPs worth of USD 180,000 under CREF Credit Fund
  - Kumari, Prabhu, HBL and Nabil banks financed for 8 MHPs worth of USD 200,000 under ESAP phase

## Lessons

- Most projects have fallen behind in repayment
- Project shutdown/long down time due to earthquake, technical problems, management conflicts, extension of national grid etc.
- Lack of post installation and project management support

# Community MHP: Issues and Challenges

- Very High Upfront Capital Cost
  - Long Time for Financial Closure
  - Low Quality Work (Community Contribution)
- High Transaction Costs
  - Remoteness
  - Collective Action Problems
- Limited Operation & Management Skills
  - Unattractive Remuneration
  - High Turn Over of Trained Human Resources
  - Poor Record Keeping & Lack of Financial Transparency

# Community MHP: Issues and Challenges

- Low Revenue Generation
  - Low Tariff Rates – Flat Rates
  - Limited Productive Uses - Plant Load Factor about 30%
  - Lack of Maintenance Fund
- Natural calamities - High Cost for Plant Insurance
- Deprived sector lending ceiling only NPR 10 million/project



**BFI's Reluctant to Lend to Community Owned & Managed RE Systems in Remote Locations**



# Tools for Unlocking Domestic Finance

## Not all RE Projects will be financed by BFIs

- Bankable Projects
  - Technically Good sites
  - Special Purpose Vehicle/Energy Service Companies
  - Accessible w/ Communication Facilities
  - Revenue generation for O&M & loan repayment – Appropriate tariff , Prepaid Metering & Productive energy uses
  - Upfront Community Equity
- Timely Completion & Quality Work
- Construction initiation only after financial closure

# Tools for Unlocking Domestic Finance

## Incentives for BFIs

- Establishment of risk sharing mechanisms
  - First Loss Guarantee Scheme
  - Viability Gap Funding
  - RE Challenge Fund
  - Credit Guarantee Scheme
  - Project and Debt Insurance
  - Provision of Concessional Loan/Interest Subsidy etc.
  - Administrative Costs
- Technical Assistance

# Potential Financiers for RE Financing

- Central Renewable Energy Fund (CREF)
- Commercial and development banks
  - CREF partner bank and other BFIs
- Development partners
  - GIZ, KfW, World Bank, ADB, UNDP, UNCDF, GCF
- Microfinance institutions and cooperatives
- RE equipment suppliers
- Private equity investors

# AEPC/RERL Initiatives

## Support for Central Renewable Energy Fund

- Technical Support
  - Preparation of Business Plan
  - Preparation of Vendor Financing Manual
- Financial Support
  - Credit Financing for RE Projects – Solar PV, Mini/Micro Hydro
    - BFI to LFI to Beneficiary (Stand-alone systems)
    - BFI to RE Projects (Community-based systems)
  - Establishment of Credit Guarantee Mechanism – Mini Hydro & Small Solar Pumps

# AEPC/RERL Initiatives

- Vendor financing
  - Vendor to LFI to Beneficiaries – Solar Pumps
  - Rent-to-own model – Large Solar Pumps
  - SPV/ESCO model – Mini Grids
- Interest subsidy (in process)

**Before, During & After Installation support to BFIs  
& project developers (Community/SPV/ESCO)**

# Case Study I – Vendor Financing for PVPS

- Started with 5 PVPS and only USD 6,000 RERL support
  - 50% subsidy, 50% credit guarantee
- Vendor Promoted 36 PVPS
- Excellent repayment and no use of credit guarantee
- RERL support for 150 PVPS
- 3 vendors investing in partnership with BFIs and LFIs



Financing Mix	NPR	%
Subsidy	24,000	26.09%
Upfront Equity	20,000	21.74%
Vendor's Credit with 24 EMI	48,000	52.17%

# Case Study II – 18 kWp Baidi Solar Micro Grid Project



- 7 year investment tenure with 15% RoI
- The revenue generated from monthly tariff is sufficient to repay bank loan and manage operational expenses

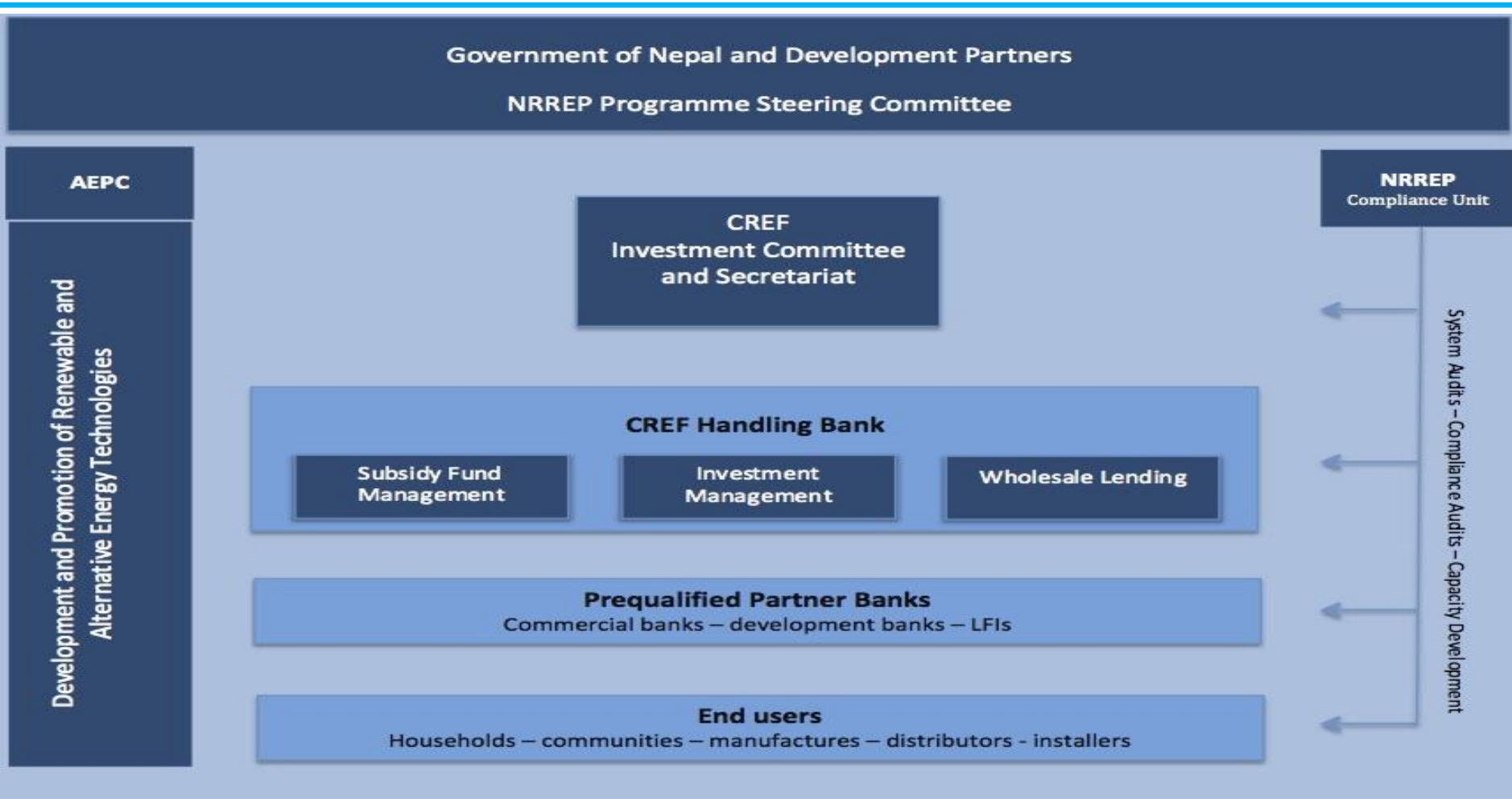
## Monthly tariff packages:

- Below poverty line: NPR 250/M
- Package A (Lighting): NPR 400/M
- Package B (Lighting + TV): NPR 700/M
- Package C (Commercial): NPR 1,000/M

## Learning

- Rural households can pay ~ NPR 250/M tariff which makes 95% MHPs financially viable
- Communities need reliable electricity rather than their stake on the project management
- Private sector participation for project management and operation is required
- Required strong ESCO-community coordination

# Way Forward: CREF Institutionalization





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# Thank you