POLICY TOOLS FOR INCENTIVIZING PRIVATE INVESTMENT IN RET TO PROMOTE ENERGY ACCESS IN IMPOVERISHED RURAL AREAS

ESCAP’S Pro-Poor Public-Private Partnership (5P) Approach

Presented by:
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Session Objective

To share a high-level overview on ESCAP’s approach to incentivizing private investment in RET’s, using the 5P approach and the project’s lessons learned as a practical example of improving rural access to energy services through PPPs.

Programme Framework

• 1.2 billion people do not have access to electricity, while 2.8 billion rely on wood or other biomass to cook and heat their homes.

• This programme is aligned with the Secretary General’s Sustainable Energy For All (SE4All) initiative. Specifically by working towards: “providing universal access to modern energy services” through the use of PPPs.
Project Objective

To build the capacity of policy makers, civil society and the private sector for engaging in public-private partnerships to enhance the application of renewable energy and improve access to energy services. Additionally, to use the 5P approach to enhance rural productivity and create income generating opportunities.

The programme has been developed based on ESCAP’s flagship project in Cinta Mekar, Indonesia which focused on providing basic services to the poor through public-private partnership.

• The project successfully developed a 120 kW micro-hydro power utility.
• The utility has been successfully running for more than 10 years.
Based on the success of the Cinta Mekar experience, ESCAP developed the Pro-Poor Public Private Partnership (5P) business model

- Works to establish multi-level stakeholder partnerships, including PPPs, in which community mobilization and co-ownership of the energy utility has proven to be key to 5P project sustainability.

Demonstration Project Information

- **Nepal**: 2 demonstration project (Makwanpur and Tanahun Districts)
- **Lao PDR**: 1 demonstration project (Xayabouly Province)
- **Village Population**: 75-150 households
- **Energy Systems**: Solar PV and micro-hydro
- **System Sizes**: 16-23 kW
- **Entrepreneurial Potential**: Agricultural processing, cool storage, ecotourism, etc.
Energy utility 60% owned by the private sector and 40% owned by the community

• Private sector investment
  • Ownership equity and investment amount are not linked - creating a greater incentive for private investment and financial sustainability

• Community cooperative established
  • Responsible for managing community returns on investment

Revenues are used by the cooperative for community development activities and/or to further subsidize the tariff rates

Private sector interest: emerging utility market, reaching new customer bases for alternative energy projects, business expansion.
5P is a model of inputs and is working to develop a clear framework for implementing off-grid small scale PPPs.

The approach discussed previously is not the only option, it is critical that the approach be designed based on community needs and priorities.

Alternative models could include:

- Decentralized systems (SHS’s, biogas, solar cookers, etc.)
- Enterprise based energy systems, excluding household lighting
- Grid connected systems which act as a grid fringe booster, generating feed-in-tariff revenues.
- Etc.
The project’s technologies and sizing were determined based on:

- Resource assessment
- Environmental and socioeconomic impact assessment
- Technology and financial assessment
  - Based on quality, cost per household, transmission factors, etc.
- Community need
  - Based on use, enterprise potential, ability to pay, etc.

When engaging in a PPP, it is important to avoided pre-selected technologies when a project site has already been selected. Resource assessment, environmental impact assessment and social impact assessment are all necessary prior to technology selection.
At its core, the 5P approach is focused on developing a sustainable and replicable model. To achieve this the following key approaches were undertaken:

1. Project cycle development
2. Baseline survey, socio-economic and energy use assessment, and enterprise and value-chain assessment
3. Policy analysis and gap analysis – agency collaboration on policies such as feed-in-tariff, energy subsidy mechanisms, etc.
4. Counterpart coordination – grid extension and electrification planning
5. SPV/Energy utility formation – focused on community ownership, and private sector innovation, investment and system management
PROJECT CYCLE OVERVIEW

5P Partnership Phase

National concept awareness, working group establishment, community engagement

Incubation Phase

Business planning, rural enterprise planning and community mobilization

Design Phase

Stakeholder consultations and power system design

Implementation

Power system construction, rural enterprise development, electrification and policy development

Evaluation

Impact evaluation and scalability assessment

Up-Scaling

Creation of an enabling environment for development: policy action, financial mobilization, business incubation and network development
Partnership and counterpart capacity building has been a major component to effective project implementation and scalability.

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<th>Capacity Building</th>
<th>NGO – Community Mobilizer</th>
<th>Private Sector</th>
<th>Technical Advisors</th>
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<td>Works with the community to build capacities, ensure project ownership and understanding, ensure stakeholder understanding and voice</td>
<td>Can be an investor and/or co-owner/operator depending on the model and preference</td>
<td>Agencies that fill capacity gaps</td>
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<td>PPP frameworks</td>
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<td>1. Resource and technical assessment; system design/build and operator training</td>
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<td></td>
<td>Data collection tools/techniques</td>
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<td>2. Legal framework for utility establishment</td>
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<td>Community engagement and SPV development</td>
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<td>- Assist and provide expertise in capacity building activities on an as needed bases</td>
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<td>Resource assessment best practices</td>
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FINANCING MECHANISMS

The model’s financing has fixed components, specifically the tariff rate, resulting in an 80% grant component to meet required ROI and cash flows. Economies of scale and village clusters are necessary to ensure financial viability for scale-up and to reduce the grant ratio.

The major issue is not availability of capital, but the mechanisms to access funds at affordable rates and de-risk off-grid energy projects.

As a result the following alternative financing approaches are being analyzed:

1. Impact Investment Networks
2. Clean Energy Funds (Equity Investment)
3. Clean Energy Credit Guarantee (assisting developers access traditional forms of finance such as bank loans)
4. Carbon Markets (Voluntary Carbon Market in particular)
5. Micro-finance tools
6. Green Bonds (Climate Bonds)
7. Policy Tools: Feed-in-tariffs, transparent PPA/IPP policy frameworks, corporate social responsibility promotion
Rural electrification does not necessarily lead to economic development and must be linked with enterprise development activities and access to financing for pro-poor development to be achieved;

Strong linkages must be made between the ground and policy level for effective PPP and electrification policy development; lack of understanding also at the District/Provincial level can also impede progress

Communication across ministries for in energy planning and policy development is necessary to prevent overlap and ineffective field implementing activities.
Strong policy frameworks which enhance the ease of doing business for private investors such as:

- IPP and ESCO regulations
- Feed-in-tariffs (including preferential rates for energy producers)
- Investment law and community cooperative law

Strong public sector support and understanding on the role of the private sector as an investor and provider of energy services is critical, particularly in terms of SPV development.

Policies which support improved access to affordable financing mechanisms, which do not require personal guarantees by the private sector individual.
QUESTIONS?

IMPLEMENTING PARTNERS

FUNDING AGENCIES

Alternative Energy Promotion Centre (AEPC)
Institute of Renewable Energy Promotion
United Nations Development Account
International Fund for Agricultural Development