

# Seminar on Policy Options for Expansion of Community-Driven Energy Service Provision

## **“ Framework for Rural Energy Service Provision & Creating an Enabling Environment”**

### Background Document

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*Lijing Hall, Yu Yang Hotel, Beijing, China*

# Outline

- Introduction
- General Framework
- Business Models and Examples
- Way Forward

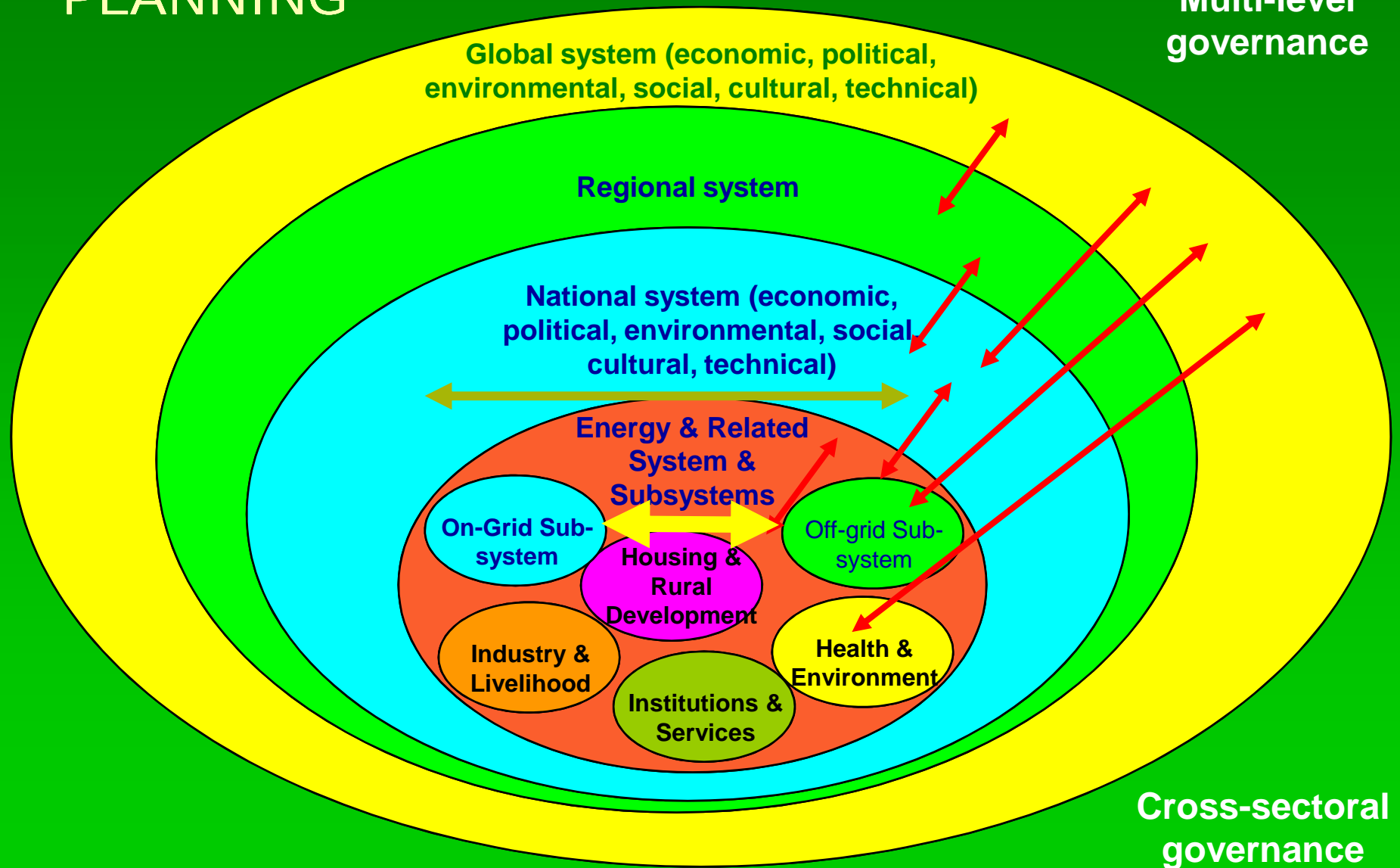
# Intro

- Based on insights gained, lessons learned and recommendations from past experiences in community-based energy service provision
- Good practices were synthesized and organized into a general framework
- Framework can serve as a guide for replication in future public-private partnerships and/or private sector-led initiatives.

# Framework

- Level of application
- Component area
- Desired elements
- Areas of intervention, strategies and mechanisms
- Business Models and Examples

# FRAMEWORK FOR INTEGRATED ENERGY PLANNING



# Proposed Analytical Framework

## Elements

Macro-Level  
Application  
(National)

Micro-Level  
Application  
(Community)



# Levels and Elements

- Has two levels of application, namely, the *macro or national level* and the *micro or community level application*
- Covers the desired elements or features which need to be put in place to encourage private sector participation in rural energy service provision.
  - policy and program support
  - legal environment
  - institutional and other implementation arrangements
  - risk management options
  - delivery mechanisms
  - sustainability
  - business planning and operations

# Areas and Examples

- Presents *areas of interventions, strategies, mechanisms and activities* which can scale up the involvement of the private sector
- Notes relevant examples reference

# Proposed Analytical Framework

| Level of Application                | Component/ Area   | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms   |
|-------------------------------------|-------------------|--|---|
| Macro or National Level Application | Legal Environment | Enabling laws supporting energy service provision in rural areas as well as green (or RE-based) business development | Support and/or work for the enactment of proactive legislation which: <ul style="list-style-type: none"><li>▪ clearly defines marginalized consumers;</li><li>▪ provides lifeline rates for the poor and policies for cross-subsidies, subsidies and the expansion of networks; and</li><li>▪ mandates expansion of electricity services to rural areas and compulsory levying of a universal charge to meet the subsidy requirement for electrification in poor areas.</li></ul> |

# Proposed Analytical Framework

| Level of Application                | Component/ Area   | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|-------------------|--|--|
| Macro or National Level Application | Legal Environment | Enabling laws supporting energy service provision in rural areas as well as green (or RE-based) business development | Support and/or work for the enactment of a proactive legislation which institutionalizes policies (e.g., Renewable Portfolio Standards) and programs supporting green (or RE-based) business development |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|----------------------------|---|--|
| Macro or National Level Application | Policy and program support | Integrated and holistic approach to rural energy policy and program formulation | <p>Establish linkages among national government agencies in charge of the various sectors for appropriate coordination on their respective rural development plans and programs</p> <p>Key considerations:</p> <ul style="list-style-type: none"><li>-“Bundling” services such as water, electricity, sanitation and education</li><li>- Enhance link between energy and other development sectors</li></ul> |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|-------------------------------------|----------------------------|---|---|
| Macro or National Level Application | Policy and program support | Market or environment conducive to private sector participation in rural energy service provision | Undertake electricity market transformation which unbundles generation, transmission and distribution to encourage price and service competition, particularly in low income communities, as well as encourage private sector participation |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms |
|-------------------------------------|----------------------------|--|---|
| Macro or National Level Application | Policy and program support | Government-initiated or managed programs which guarantee wider access to electricity services, including: transparent and competitive bidding, concessions to local bodies and low household connection fees |   |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|----------------------------|--|--|
| Macro or National Level Application | Policy and program support | Government-initiated or managed programs<br><br>- Rural electrification planning | To project a fair decision-making process, rural electrification planning must be transparent and objective and that it makes use of clearly defined criteria to rank areas.<br><br>Factors to be considered include: <ul style="list-style-type: none"><li>▪ capital investment costs,</li><li>▪ the level of local contributions,</li><li>▪ the number and density of consumers and</li><li>▪ the likely demand for electricity.</li></ul> |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|----------------------------|---|--|
| Macro or National Level Application | Policy and program support | Government-initiated or managed programs<br><br>Smart subsidies | <ul style="list-style-type: none"><li>• Establish clear and transparent rules</li><li>• Incorporate a clear “exit strategy” for subsidies</li><li>• Apply subsidy to lowering initial costs (technical advice, capital investment)</li><li>• Provide strong cost minimization incentives, such as retaining private sector competition</li></ul> |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|-------------------------------------|----------------------------|---|---|
| Macro or National Level Application | Policy and program support | Government-initiated or managed programs<br><br>Smart subsidies | <ul style="list-style-type: none"><li>•Tie up operating performance to subsidies rather than investment to make them more effective;</li><li>•Subsidize market development or “trail-blazing costs” (marketing, distribution infrastructure, user awareness, appropriate technology adaptation, quality standards, and training) instead of hardware because these long-term costs are the crucial barriers in rural areas;</li></ul> |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|----------------------------|---|--|
| Macro or National Level Application | Policy and program support | Government-initiated or managed programs<br><br>Smart subsidies | <ul style="list-style-type: none"><li>• Remain technology-neutral;</li><li>• Cover the whole supply chain including end-use investments, particularly to encourage pro-poor end-uses;</li><li>• Only cross-subsidize within a programme to pay for lifeline tariffs and other “pro-poor” recurrent cost subsidies (e.g., enable transfer from richer sections of the community, and commercial users to marginal connections).</li></ul> |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms   |
|-------------------------------------|----------------------------|--|---|
| Macro or National Level Application | Policy and program support | Government-initiated or managed programs<br><br>Concession for selected priority areas (e.g., remote off-grid communities) | <ul style="list-style-type: none"><li>•Government identifies priority areas, conducts a bidding for area concessions, and awards concessions for a specified period to a selected company similar to a franchise.</li><li>•The government provides subsidies and regulates the fees and operations of the concession.</li></ul> |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements                 | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|----------------------------|----------------------------------|--|
| Macro or National Level Application | Policy and program support | Monitoring and evaluation system | Establish a monitoring mechanism which: <ul style="list-style-type: none"><li>•defines objectives, time schedules and procedures for regular monitoring of progress as well as impact;</li><li>•considers the broader context of poverty monitoring &amp; evaluation</li></ul> |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements                            | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|----------------------------|---|--|
| Macro or National Level Application | Policy and program support | Bottom-up approach to rural energy planning | Consider inputs of various stakeholders to ensure that rural energy service will be reliable, affordable, socially-acceptable and sustainable. |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|----------------------------|--|--|
| Macro or National Level Application | Policy and program support | Government support activities<br><br>- for enabling change | <ul style="list-style-type: none"><li>•Strengthen institutional capacity of stakeholders to support RE development</li><li>•Use appropriate financing and subsidies to enable low-income households or entrepreneurs to invest in modern energy services</li><li>•Include low-income people as active stakeholders in energy planning to meet their needs on a long-term basis</li></ul> |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|----------------------------|--|--|
| Macro or National Level Application | Policy and program support | Government support activities<br><br>- for enabling change | <ul style="list-style-type: none"><li>•Develop appropriate technologies, with community involvement, to suit local cultural needs</li><li>•Set in place technical standards for quality assurance for technologies to ensure reliability and consumer confidence</li><li>•Engage NGOs and other civil society groups in advocacy and dialogue.</li></ul> |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|----------------------------|--|--|
| Macro or National Level Application | Policy and program support | Government support activities<br><br>- rural energy planning | <ul style="list-style-type: none"><li>•Build human and institutional capabilities</li><li>•Improve data collection and processing</li><li>•Support research and development</li><li>•Undertake advocacy campaigns/activities</li></ul> |

# Proposed Analytical Framework

| Level of Application                | Component/ Area            | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|----------------------------|--|--|
| Macro or National Level Application | Institutional arrangements | Institutional structure appropriate and/or dedicated to rural energy service provision | <p>Assign functions to or create rural electrification agencies that are autonomous and have the ambitious target to reach out to the poor.</p> <p>Consider the common success factors which include:</p> <ul style="list-style-type: none"><li>•a high degree of autonomy for the implementing agency,</li><li>•clear performance-tracking systems,</li><li>•involvement of local communities and</li><li>•good quality customer service.</li></ul> |

# Proposed Analytical Framework

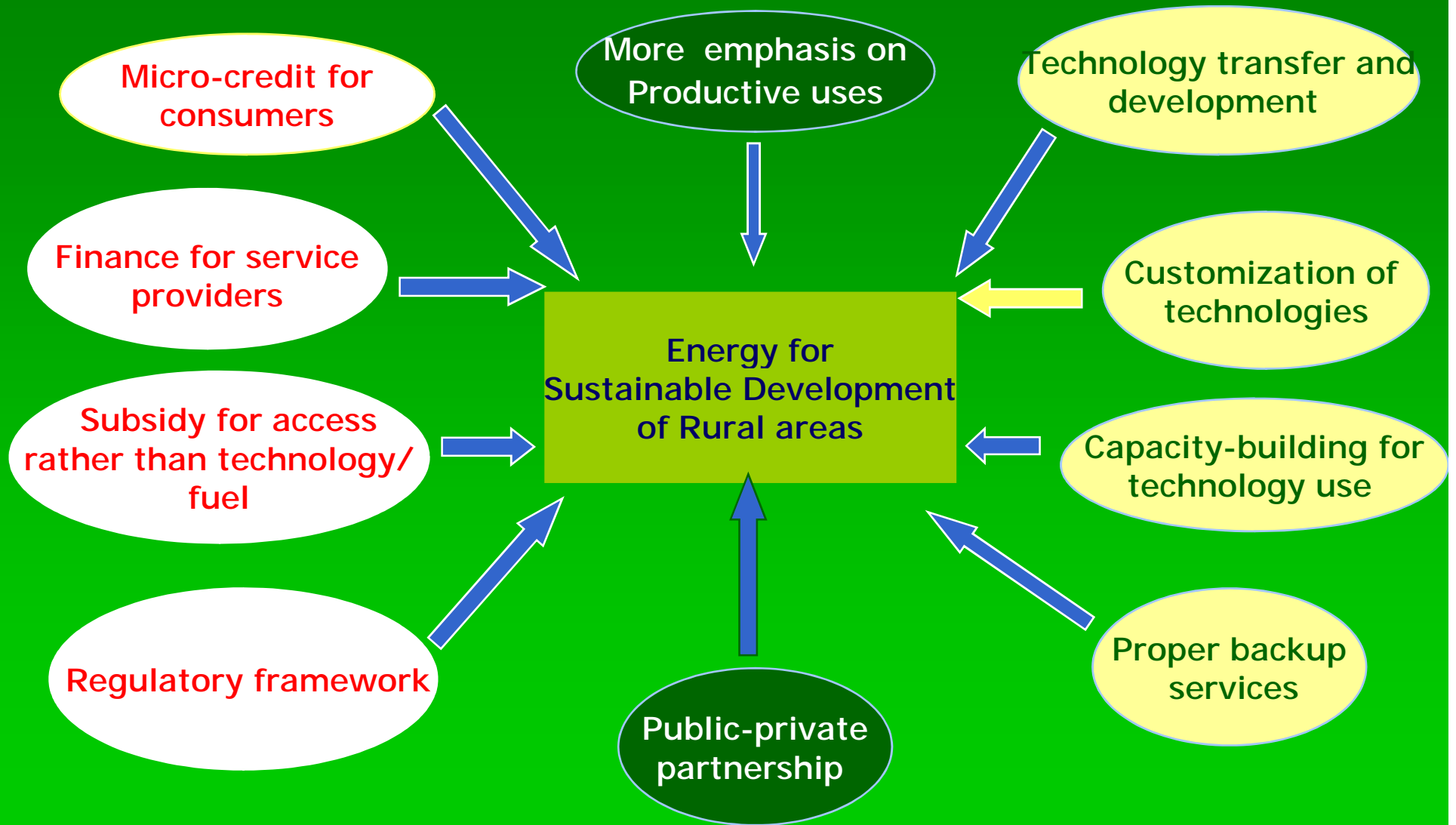
| Level of Application                | Component/ Area            | Desired Elements                      | Areas of Intervention/ Strategies/ Mechanisms   |
|-------------------------------------|----------------------------|---------------------------------------|---|
| Macro or National Level Application | Institutional arrangements | Decentralized institutional framework | <ul style="list-style-type: none"><li>•Involve stakeholders with different capacities (information gathering, analysis, investing, etc.)</li><li>•Involve stakeholders at every level of program/project development and implementation</li><li>•Seek commitment of national and local government units</li></ul> |

# Proposed Analytical Framework

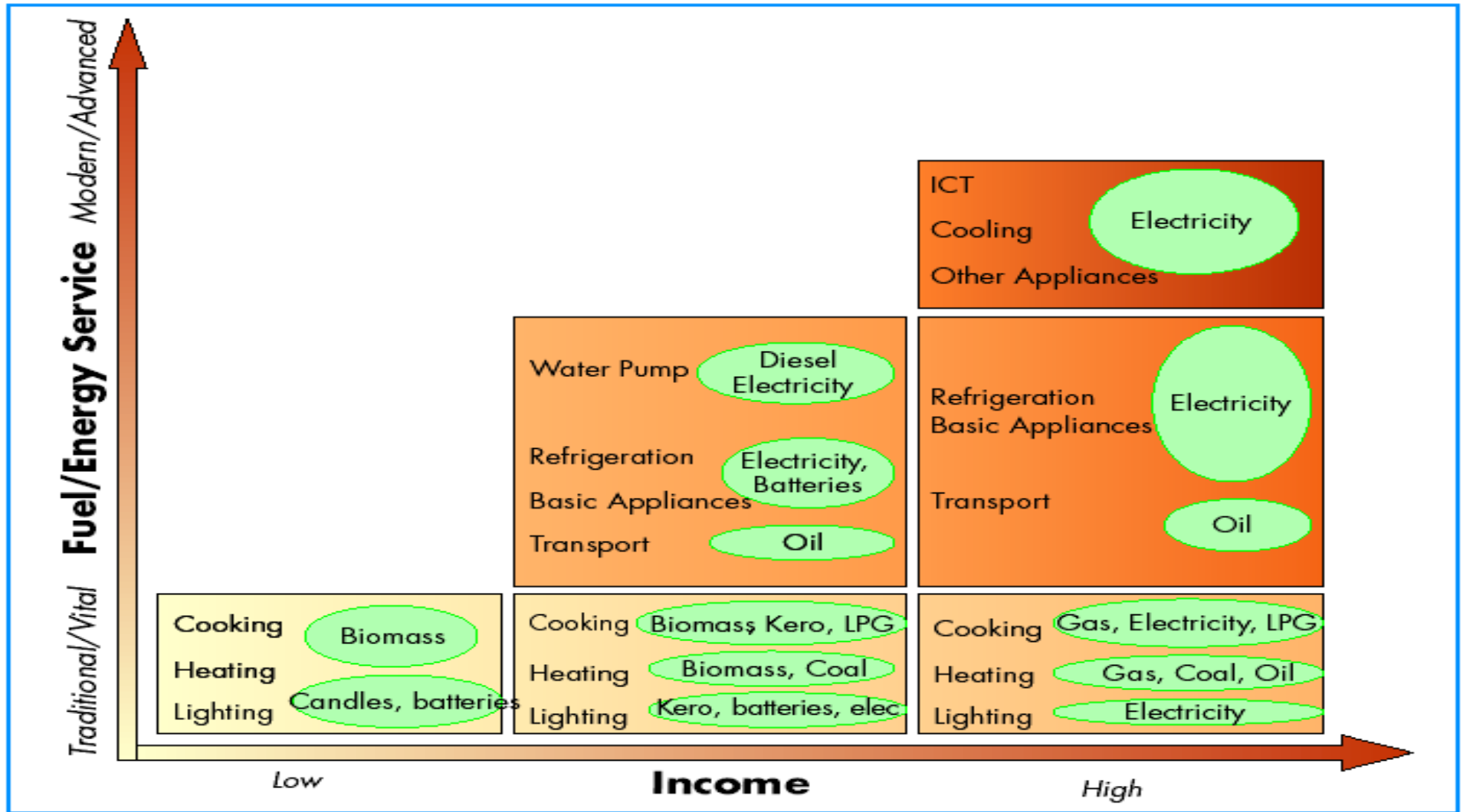
| Level of Application                | Component/ Area            | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms  |
|-------------------------------------|----------------------------|--|--|
| Macro or National Level Application | Institutional arrangements | Participatory approach with clear roles for each stakeholder | <ul style="list-style-type: none"><li>• Government</li><li>• Research &amp; other specialized institutions</li><li>• Rural communities</li><li>• NGOs and community-based organizations</li><li>• Private sector</li><li>• Coordination or intermediary bodies</li></ul> |

... Micro level

# Community-based Rural Energy Services for Sustainable Development



# Illustrative example of household energy/fuel transition



Note: ICT is information and communication technology.  
 Source: IEA analysis.

# Proposed Analytical Framework

| Level of Application                 | Component/ Area                          | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms |
|--------------------------------------|--|---|---|
| Micro or Community Level Application | Implementation Mechanisms and Strategies |   |   |
|                                      | Key areas/ issues                        | Consider gender dimensions of rural energy in project identification and planning |   |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area   | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|---|---|--|
| Micro or Community Level Application | Implementation Mechanisms and Strategies<br>- Key areas/ issues | Consider gender dimensions of rural energy in project identification and planning |  |
|                                      |   | <ul style="list-style-type: none"> <li>Data collection and processing</li> </ul>  | <p>Require disaggregation of energy use, supply and impacts by gender, and apply gender analytic tools for incorporating gender issues in project design and implementation. Moreover, establish frameworks which enable inputting data disaggregated by sex into the decision-making process.</p> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area   | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|---|---|---|
| Micro or Community Level Application | Implementation Mechanisms and Strategies<br>- Key areas/ issues | Consider gender dimensions of rural energy in project identification and planning |   |
|                                      |   | <ul style="list-style-type: none"> <li>• Technology options</li> </ul>            | <ul style="list-style-type: none"> <li>•Specifically address women's needs for labor-saving, time-saving, improved health, security and income-generation through energy inputs. Technology options include: stoves, kilns, grinders, presses and pumps;</li> <li>•Prioritize cooking energy needs and issues related to women's health.</li> </ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area   | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|---|---|---|
| Micro or Community Level Application | Implementation Mechanisms and Strategies<br>- Key areas/ issues | Consider gender dimensions of rural energy in project identification and planning |   |
|                                      |   | <ul style="list-style-type: none"> <li>• Technology options</li> </ul>            | <ul style="list-style-type: none"> <li>• Specifically address women's needs for labor-saving, time-saving, improved health, security and income-generation through energy inputs. Technology options include: stoves, kilns, grinders, presses and pumps;</li> <li>• Prioritize cooking energy needs and issues related to women's health.</li> </ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area   | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|---|---|---|
| Micro or Community Level Application | Implementation Mechanisms and Strategies<br>- Key areas/ issues | Type of energy services which will meet the needs of the intended beneficiaries | <ul style="list-style-type: none"><li>•Energy strategy formulation must be based on a clear understanding of the lifestyles and livelihoods of rural populations;</li><li>•Energy services must focus on the primary requirements for productive activities such as process heat and motive power;</li><li>•Consider energy services which can substitute manual labor content in production.</li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area   | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|---|---|---|
| Micro or Community Level Application | Implementation Mechanisms and Strategies<br>- Key areas/ issues | Delivery mechanisms which address the affordability issue due to the high initial cost of rural electrification | Strategies include: <ul style="list-style-type: none"><li>•Support connection charge for rural electrification – e.g., reduction of initial connection charges by spreading them over several years by rolling them into the tariff</li><li>•Offering consumer choice – e.g., options that would enable households to purchase small systems initially and “upgrade” or expand these services later</li></ul> |

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| Level of Application                 | Component/ Area   | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|---|---|---|
| Micro or Community Level Application | Implementation Mechanisms and Strategies<br>- Key areas/ issues | Delivery mechanisms which address the affordability issue due to the high initial cost of rural electrification | <ul style="list-style-type: none"><li>•Credit for energy services – may be provided by dealers, development banks of microfinance institutions</li><li>•Making rural energy service affordable – e.g., bartering scheme in which part or all of the operating and maintenance cost is covered by in-kind contributions.</li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area   | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|---|---|---|
| Micro or Community Level Application | Implementation Mechanisms and Strategies<br>- Key areas/ issues | Delivery mechanisms which address the affordability issue due to the high initial cost of rural electrification | Business models that may be considered include: <ul style="list-style-type: none"><li>•Cash financing (or direct sales)</li><li>•Consumer financing (dealer or retailer financing)</li><li>•Fee-for-service or rental model</li><li>•Lease or lease-to-own model</li><li>•Concession by a RESCO or a community-based organization</li><li>•Cooperatives model</li><li>•Mixed approach</li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area   | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|---|---|---|
| Micro or Community Level Application | Implementation Mechanisms and Strategies<br>- Key areas/ issues | Innovative approach to financing to address both the high upfront cost of decentralized rural energy systems and affordability issue for the rural poor | <ul style="list-style-type: none"><li>•Consider capital subsidies when available</li><li>•Ensure cost recovery in tariff-setting as it affects the long-term reliability of the energy system/service and the long-term sustainability of the project/business.</li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area   | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|---|---|---|
| Micro or Community Level Application | Implementation Mechanisms and Strategies<br>- Key areas/ issues | Innovative approach to financing to address both the high upfront cost of decentralized rural energy systems and affordability issue for the rural poor | Some financing design strategies include: <ul style="list-style-type: none"><li>•Standardizing energy system design and providing lifeline tariff to the poorest consumers</li><li>•Repayment terms and amortization schedules tied to the expected revenue generation of the energy service provider</li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area   | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|---|--|--|
| Micro or Community Level Application | Implementation Mechanisms and Strategies<br>- Key areas/ issues | Community involvement in all facets of the project or business | Options include: <ul style="list-style-type: none"><li>•Set up of a rural electrification committee which can help assess the level of demand, educate consumers, resolve conflicts and collect payments;</li><li>•Encourage community contributions, in cash or kind;</li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area   | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|---|--|---|
| Micro or Community Level Application | Implementation Mechanisms and Strategies<br>- Key areas/ issues | Community involvement in all facets of the project or business | <ul style="list-style-type: none"><li>• Consider participation as project or business owner/manager<ul style="list-style-type: none"><li>➤ Promote women as energy entrepreneurs, rather than merely the beneficiaries of expanded energy services.</li></ul></li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|--|---|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | <ol style="list-style-type: none"> <li>1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community</li> </ol> | <p>a) Site selection</p> <p><i>Site selection criteria:</i></p> <ul style="list-style-type: none"> <li>• Unelectrified village and not planned for grid extension within the next 3-5 years</li> <li>• Economic profile reflects the population's capability to invest in or contribute to a new technology</li> </ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|--|---|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community | <ul style="list-style-type: none"><li>• Has sustainable supply of local resources or has access to the needed resource at an economical cost</li><li>• Residents interested in and supportive of the project or business</li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|--|---|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community | <ul style="list-style-type: none"><li>• Availability of productive uses of the energy service</li><li>• Geography facilitates project or business implementation and monitoring</li><li>• Political situation conducive to project or business implementation.</li></ul> |

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| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|--|---|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community | b) <b>Site/environment mapping</b><br><i>Secondary data requirements:</i> <ul style="list-style-type: none"> <li>Socio-economic profile (i.e., location of the site, economic activities, population and number of households, household info, social infrastructure, physical infrastructure, village structure/cultural groups, etc.)</li> </ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|--|---|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community | b) Site/environment mapping<br><i>Secondary data requirements:</i> <ul style="list-style-type: none"> <li>• Energy supply and demand profile</li> <li>• Inventory of locally available energy resources</li> <li>• Inventory of technology options</li> <li>• Village leaders</li> </ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|--|---|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community | b) Site/environment mapping<br><i>Primary data requirements:</i> <ul style="list-style-type: none"><li>• Energy-related needs</li><li>• Production and utilization data of local energy resources</li><li>• Social, economic activities and practices.</li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|--|---|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community | c) <b>Project identification and formulation</b> <ul style="list-style-type: none"><li>• Review of energy needs</li><li>• Assessment of energy resource inventory</li><li>• Identification of technology options</li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|--|---|---|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community | <p>c) Project identification and formulation</p> <ul style="list-style-type: none"> <li>• Needs-technology-resources matching considering:               <ul style="list-style-type: none"> <li>➤ The energy product/ service is providing the energy output compatible with the needs of the community.</li> </ul> </li> </ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|--|---|---|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community | <p>c) Project identification and formulation</p> <ul style="list-style-type: none"> <li>➤ The system meets the energy capacity requirement of the users.</li> <li>➤ The operational skills required can be learned easily to facilitate technology transfer.</li> </ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|--|---|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community | c) Project identification and formulation <ul style="list-style-type: none"><li>➤ The energy product/ service can create income-generating activities.</li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|--|---|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community | d) Identification of project management <ul style="list-style-type: none"><li>• Organizational structure</li><li>• Project schedule</li><li>• Social preparation of partners/ stakeholders</li></ul> |

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|--------------------------------------|--|---|---|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 1. Conduct of preparatory or pre-investment phase of the project or business based on the needs and conditions of the rural community | <p>e) <b>Business planning</b></p> <ul style="list-style-type: none"> <li>• <b>Development of business model</b></li> <li>• <b>Marketing plan</b></li> <li>• <b>Production plan</b></li> </ul> <p>f) <b>Financial planning and sourcing</b></p> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|--|---|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 2. Implementation of the project or business with active community participation or involvement | a) <b>Business plan implementation</b> <ul style="list-style-type: none"><li>• <b>Installation/ construction</b></li><li>• <b>Community and livelihood development</b></li></ul> |

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|--------------------------------------|--|---|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 2. Implementation of the project or business with active community participation or involvement | b) Project monitoring and evaluation <ul style="list-style-type: none"><li>• Village interaction feedback mechanism</li><li>• Performance information feedback mechanism</li><li>• Impact analysis</li></ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|--|--|--|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 3. Proper turnover of the project or business to the community | <p>a) Stabilization of operation</p> <ul style="list-style-type: none"> <li>• Maintenance plan</li> <li>• Instruction manual</li> <li>• Spares inventory</li> </ul> <p>b) Skills development</p> <ul style="list-style-type: none"> <li>• Pre-operation training</li> <li>• On-the-job training</li> </ul> |

# Proposed Analytical Framework

| Level of Application                 | Component/ Area  | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|--|--|---|
| Micro or Community Level Application | Business planning and operations for community-driven RE service provision | 3. Proper turnover of the project or business to the community | <b>c) Management phase-out</b> <ul style="list-style-type: none"><li>• Identification of management team from the community</li><li>• Management-related training</li><li>• Institutional development for the community/ people's organization (e.g., enterprise development)</li></ul> |

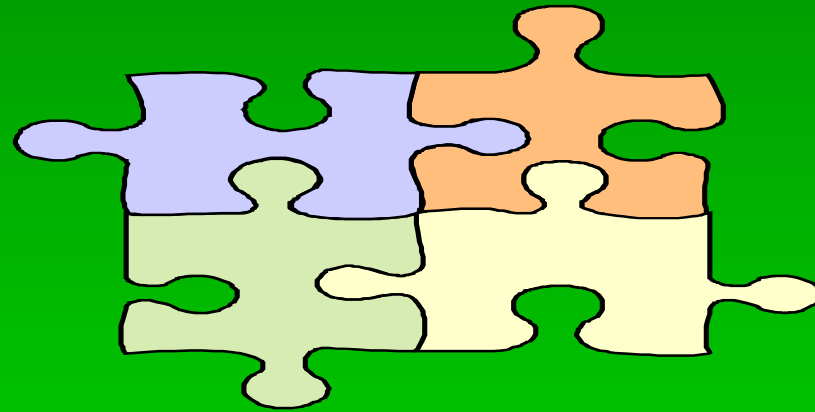
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| Level of Application                 | Component/ Area           | Desired Elements  | Areas of Intervention/ Strategies/ Mechanisms  |
|--------------------------------------|---------------------------|---|--|
| Micro or Community Level Application | Sustainability mechanisms | Appropriate systems and mechanisms in place to sustain the project or business in the long term | <ul style="list-style-type: none"><li>• Technical sustainability/after-sales service</li><li>• Financial sustainability</li><li>• Institutional sustainability</li></ul> |

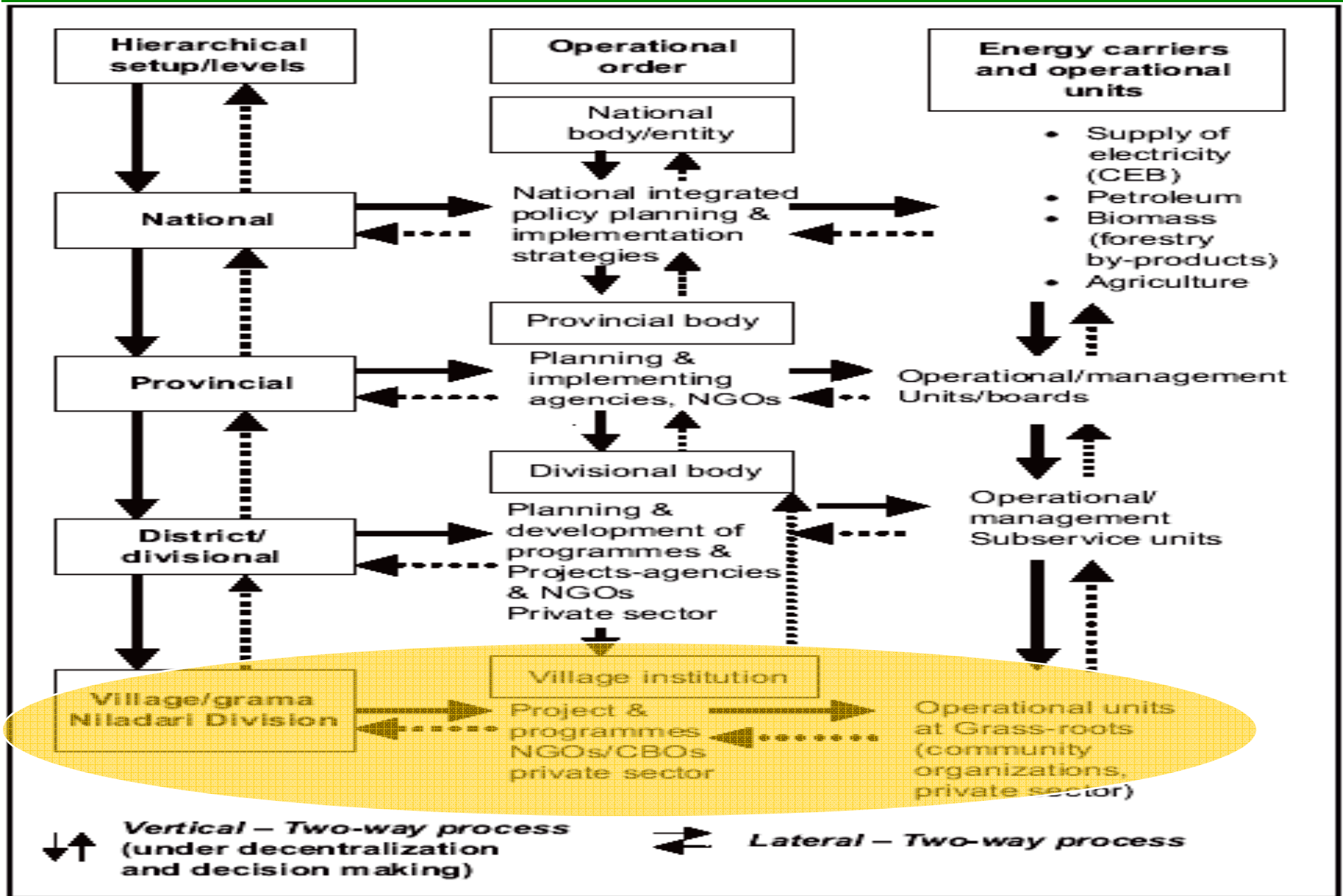
# Proposed Analytical Framework

| Level of Application                 | Component/ Area | Desired Elements   | Areas of Intervention/ Strategies/ Mechanisms   |
|--------------------------------------|-----------------|--|---|
| Micro or Community Level Application | Risk management | Appropriate risk management system in place to address potential problems in business operations | <ul style="list-style-type: none"><li>• Identification of risk factors</li><li>• Periodic monitoring and evaluation of risk factors</li><li>• Implement mitigating measures</li></ul> |

# Putting Things Together

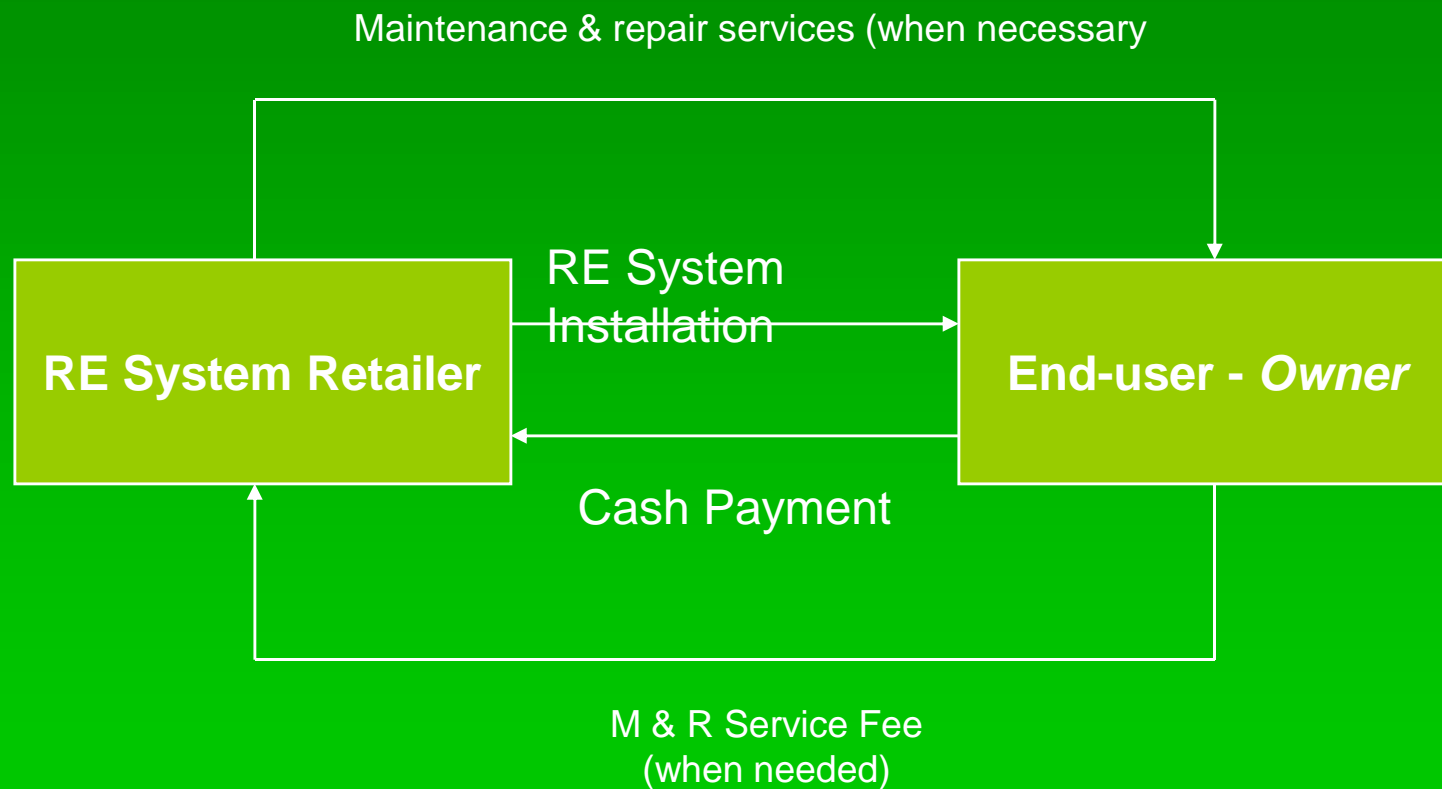


# Decentralized Institutional Framework Linking Hierarchical Mechanisms in Sri Lanka



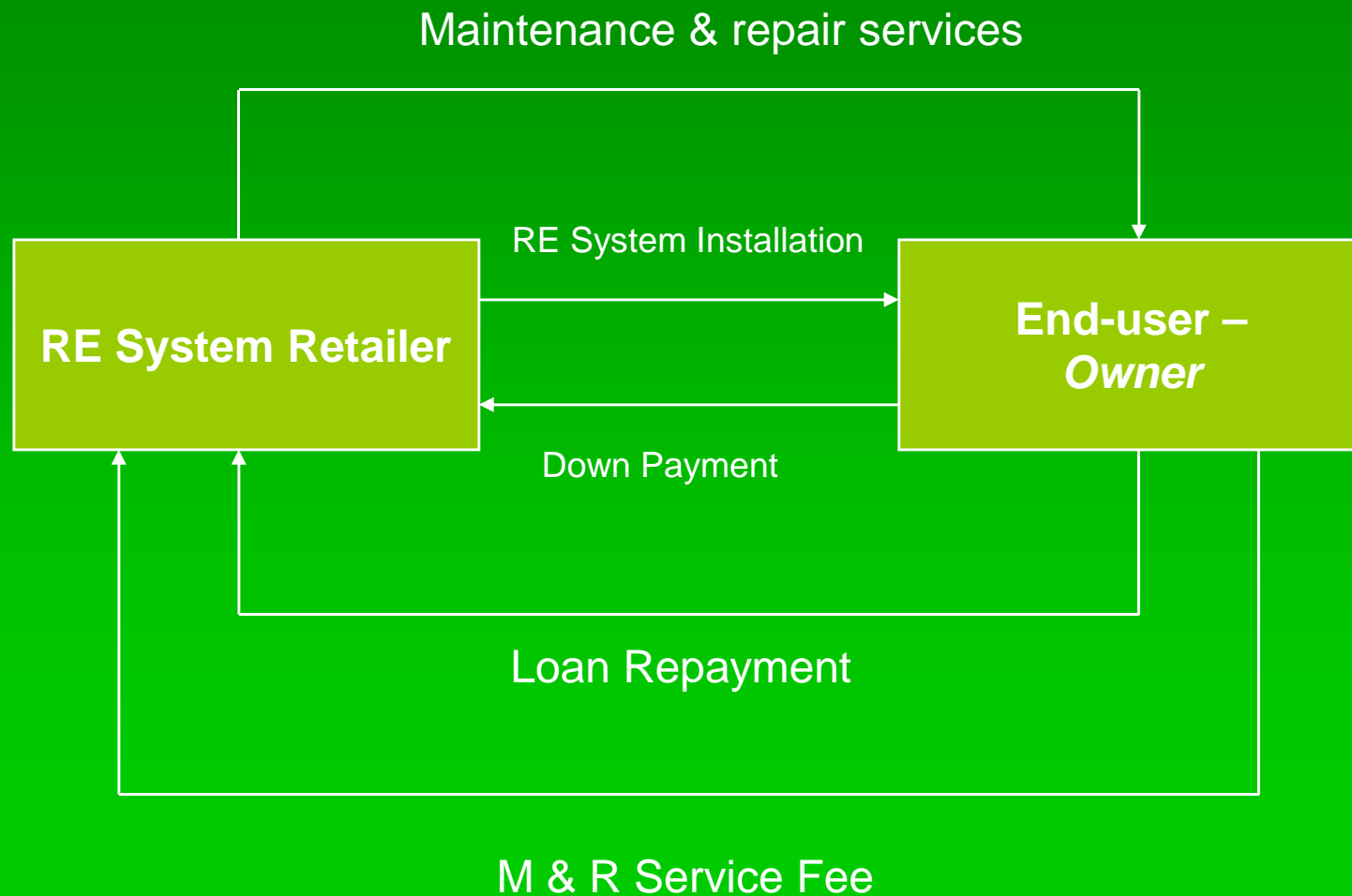
# Business Models

## Cash Financing (Direct sale)



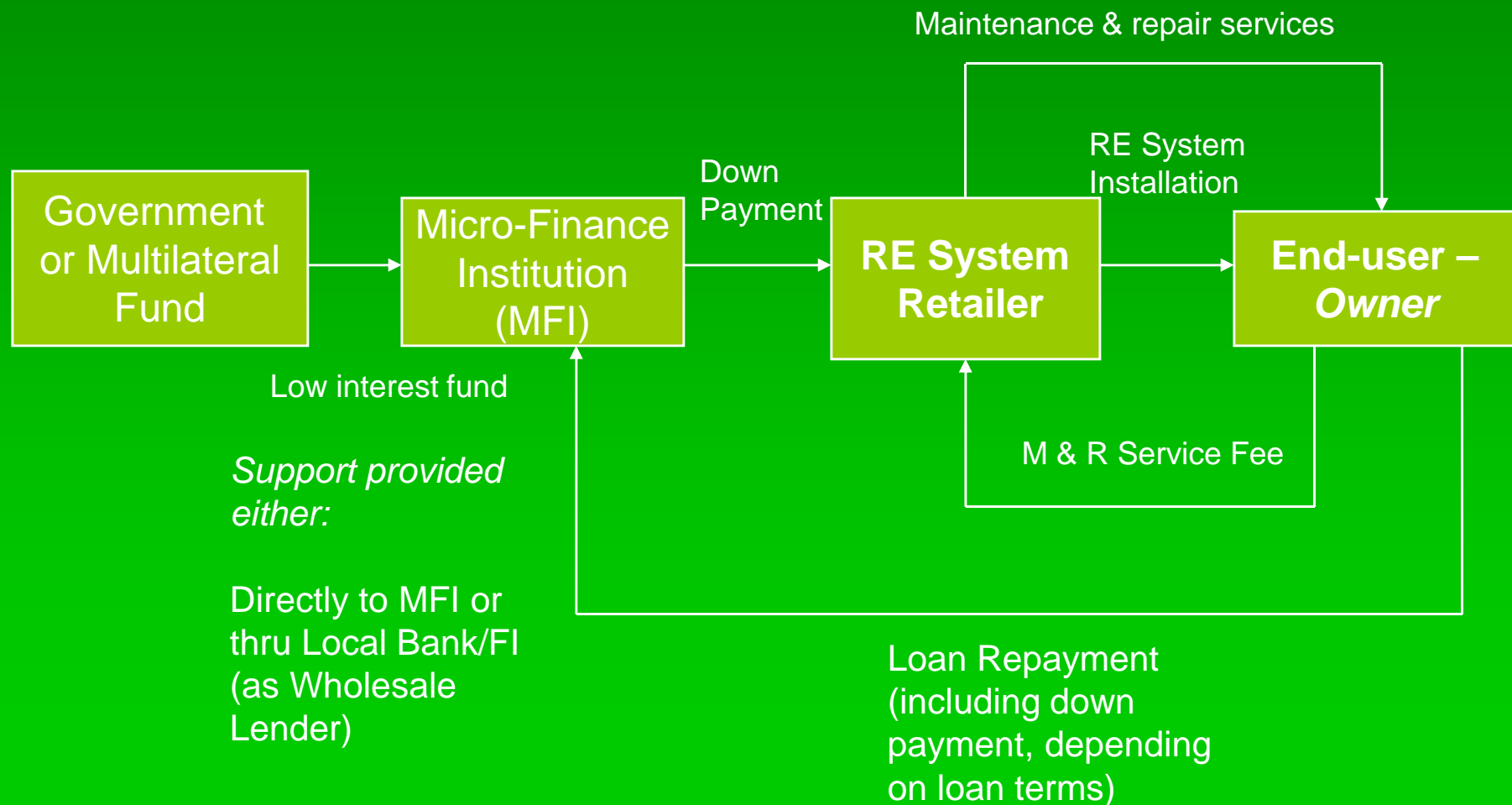
# Business Models

## Credit (or Consumer) Financing – by Retailer



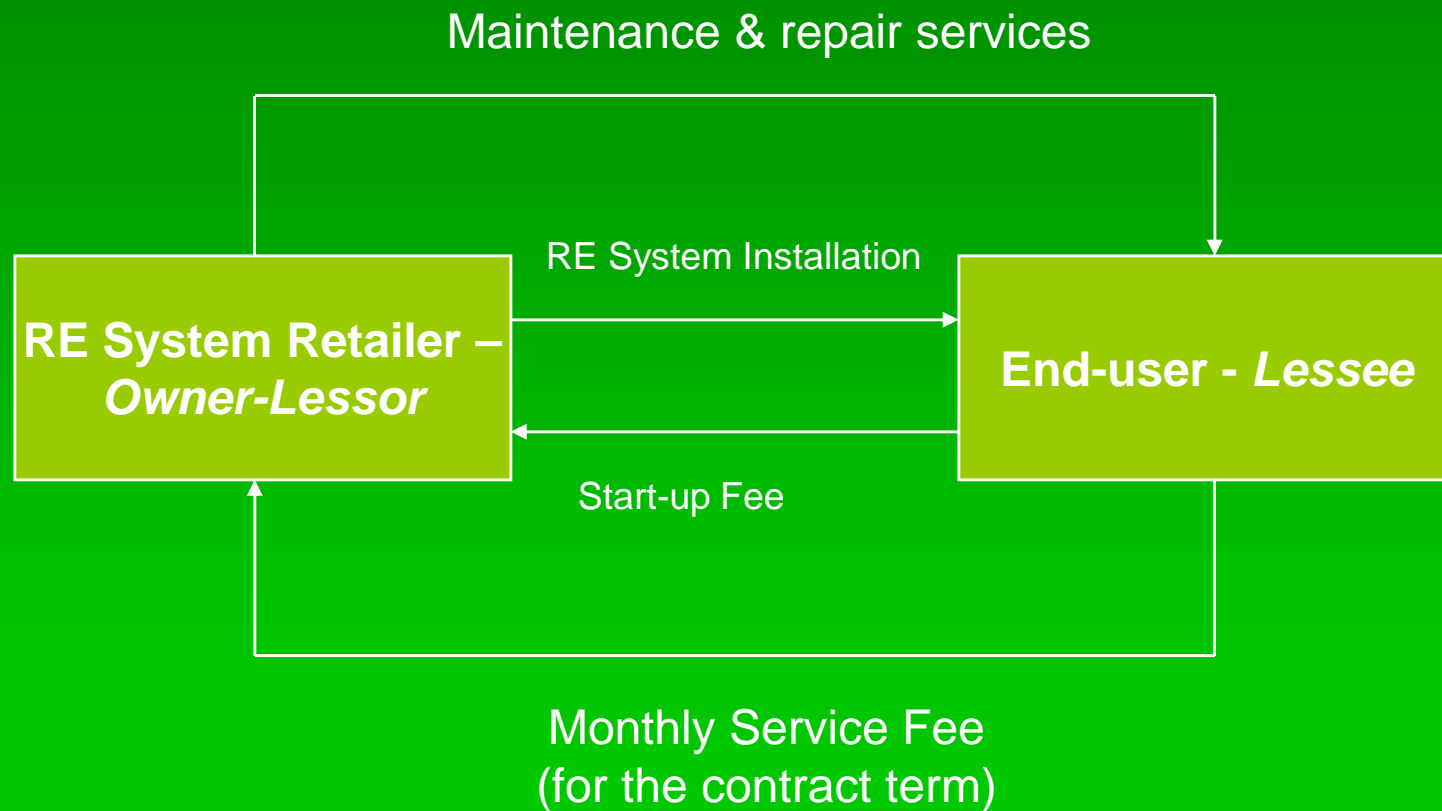
# Business Models

## Credit Financing – with funding support



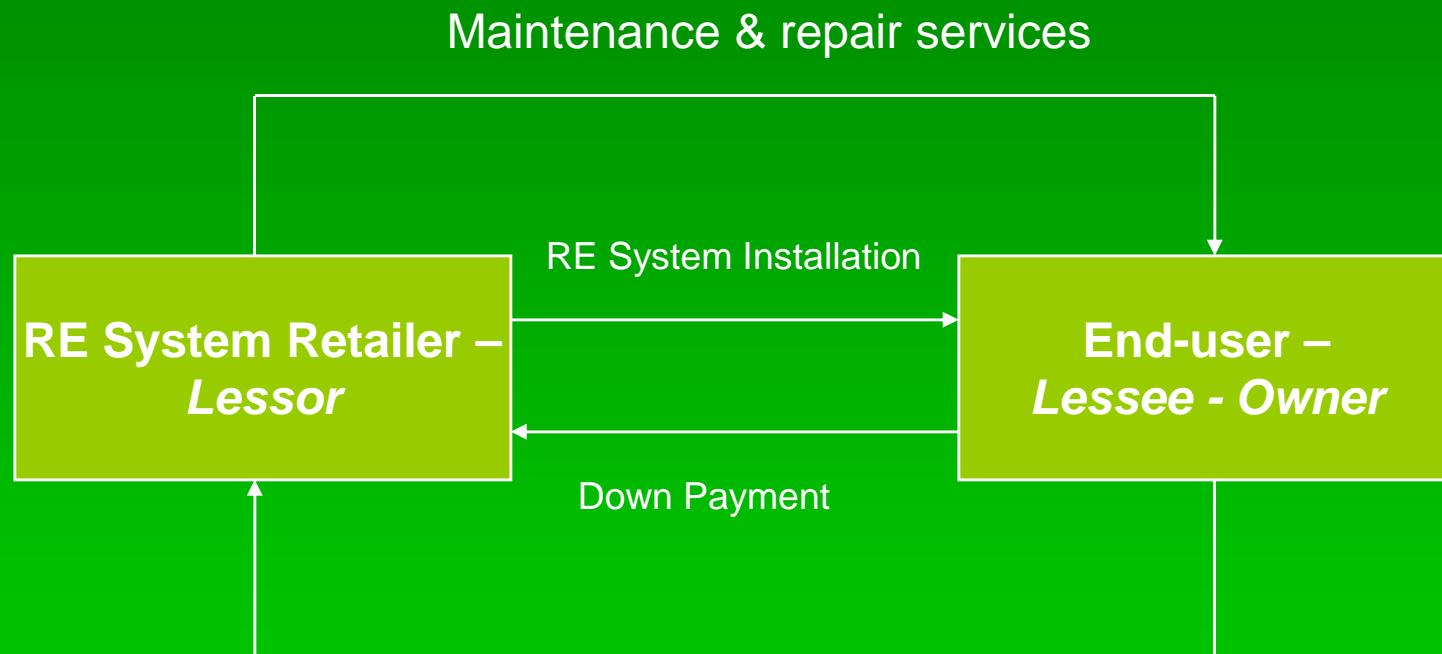
# Business Models

## Fee-for-Service or Leasing Model



# Business Models

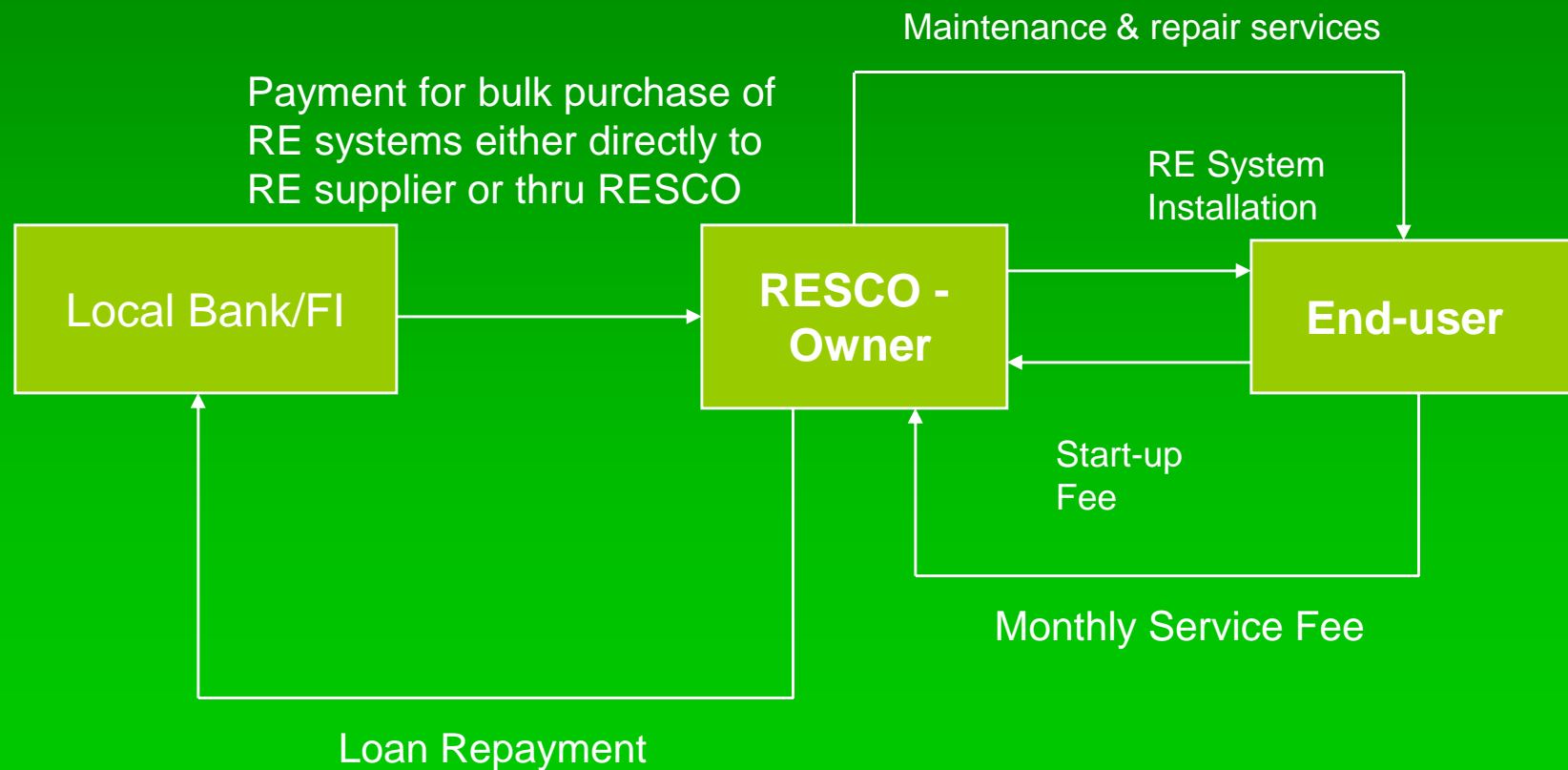
## Lease-to-Own Model



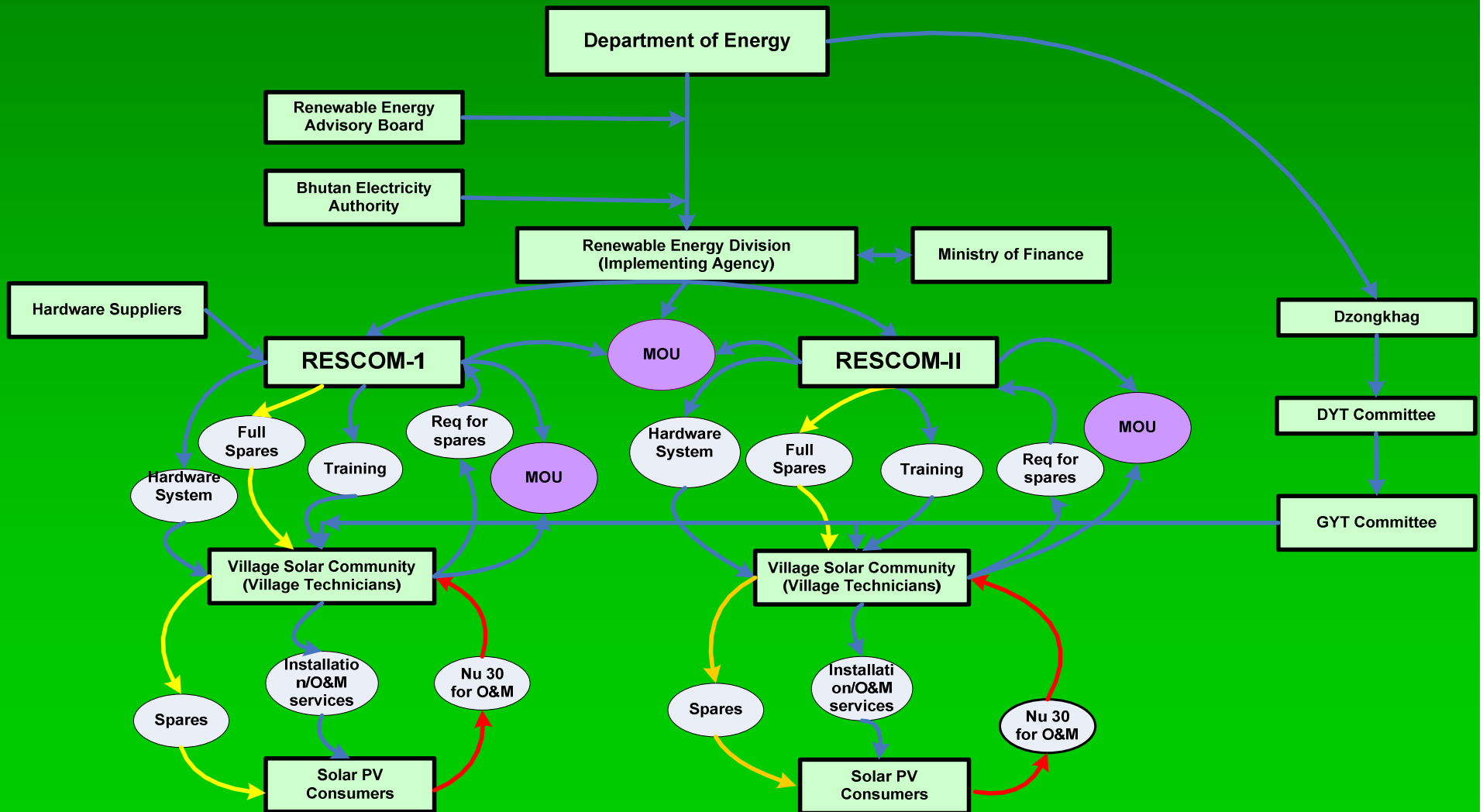
Monthly Fee = Monthly  
amortization for the agreed  
payment period (e.g., 2 years)

# Business Models

## Concession Approach – RESCO-sourced fund



# Sample: RESCOM Approach



- ESCAP Study on different approaches:
  - emphasizes the need for a shift from technology-driven energy use to a development-focused framework
  - energy needs have to be taken in the overall context of community life

Example: ***Vietnam -Marketing of Solar Home Systems***

| <b><i>Partner</i></b>                                      | <b><i>Type of organization</i></b> | <b><i>Roles</i></b>  | <b><i>Responsibilities</i></b>  |
|--|------------------------------------|--|---|
| Viet Nam Women's Union                                     | Women's NGO                        | Markets SELCO's systems and administers consumer loans         | Marketing and providing support services  |
| Solar Electric Light Company (SELCO)                       | Commercial company                 | Provides the solar home systems and is responsible for service | Supplying products, installation, training technicians, carrying out maintenance service and repossessing the system in cases of default on payment |
| Vietnam Bank for Agriculture and Rural Development (VBARD) | Development finance institution    | Provides credit to consumers                                   | Looks after payment, collection and credit management   |

## Example: : India -Financing of Solar Home Systems

| <i>Partner</i>                                | <i>Type of organization</i> | <i>Roles</i>   | <i>Responsibilities</i>   |
|---|-----------------------------|--|---|
| Solar Electric Light Company (SELCO)          | Commercial company          | Provides the solar home systems and is responsible for service | Supplying products, installation, training technicians, carrying out maintenance service and repossessing the system in cases of default on payment.    |
| Syndicate Bank/<br>Malaprabha<br>Grameen Bank | Rural development banks     | Provides credit to consumers for solar home systems            | Looks after payment, collection and credit management<br><br>Credit scheme: 3-5 year loans, 90% of solar system cost, priority lending rate of 12-12.5% |

# Way Forward

- General Framework
- Selection of an Appropriate Business Model
- Logical Framework Analysis
- RE Policy and Plan Formulation
- Government Approval and Mobilization