

Innovative Approaches for Financing Rural Energy Services – An Overview

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Service Delivery and Financing in the SADC Countries

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Abstract: *This paper presents our views on innovative approaches for financing rural energy services (RES), based on CORE International, Inc.'s extensive worldwide experience in this area. The paper focuses on overall policy, institutional, and management approaches that we believe should be followed in creating the necessary market environment for large scale RES development in the SADC region and beyond. The general discussion focuses on the need for major changes in philosophy, principles, and institutions engaged in providing massive sustainable RES financing; changes dictated by the substantially changed environment for RES and rural electrification (RE) during the last decade. New, very important players – private sector, consumers, and regulators – are joining the team of RES and RE stakeholders, while the traditional ones – government, utilities, and donors – need to redefine their roles in this new structure and as a team should challenge poverty and make sustainable growth happen.*

Key Words: *Sustainable rural energy service delivery, policies for increasing access to rural energy, rural energy and poverty alleviation, rural electrification authority, new approach to rural electrification financing, rural energy markets, public private partnerships for rural energy service delivery, central role of smart subsidies.*

I. Introduction

What does poverty alleviation mean? This is a crucial question. To me, it means the provision of resources to enable reasonable living conditions for those categorized as poor. Among many other linkages that are essential to poverty alleviation, energy is a crucial element. However, energy alone cannot bring about poverty alleviation or, not to mention, sustainable development.

While substantial efforts have been made worldwide to increase energy access for marginalized people, approximately two billion people still remain without access to affordable and reliable modern energy services. This statistic has remained about the same in absolute number for the past 20-30 years. Most of these people live in rural areas which make the provision of energy services more challenging due to the nature and characteristics of rural energy needs and loads.

To substantially reduce the number of unserved people in the future, two challenging key issues must be addressed: (i) how to find the best way to rank rural energy access much higher on the priority list of most governments, and (ii) what would be the best policy and framework arrangements to substantially enhance the environment for increased finance to rural energy service delivery by having the governments play a leveraging role only. While the answer to the first dilemma is to reach consensus on making energy prominent in countries' Poverty Reduction Strategies; the answer to the second question is to be the focus of this paper.

The objective of this paper is to create discussion on some optional arrangements that have recently shown results in facilitating the environment for mobilizing private sector and consumer finance participation in the process of rural energy service (RES) delivery, while governments and donors revise their roles toward becoming environment enablers and facilitators by leveraging RES financing.

This paper will illustrate the importance of rural energy for rural sustainable development, stressing the importance of dedicated policies and institutions for rural energy and rural electrification (RE), describing the traditional approach, and presenting innovative approaches to RE and RES financing. Furthermore, it will tackle issues and present views on potential institutional arrangements, the “to be changed” role of subsidies, the new role of various stakeholders, and a proposed integrated institutional approach for financing large-scale rural electrification projects and programs. It will then follow with examples and lessons learned, and conclude with the way forward.

II. Policies and Institutions for Sustainable Rural Energy Services

Without modern energy services the existence of basic community services and infrastructures is questionable. Modern lighting and telecommunications, reliable health care, water supply and irrigation, and local manufacturing would all be curtailed. Investment and income generating activities would never increase to the expected levels, and poverty would never be eradicated.

A. Energy Alone Cannot Bring About Rural Development

Energy enhances the opportunities for learning, education, and access to information. It enables the use of tools and machinery needed to increase production. Also, energy facilitates the flow of essential services by removing the hardship of manual labor (especially freeing many hours every day for women and children), thus improving the quality of life in rural areas.

Nevertheless, energy alone is not enough. Although a tool for poverty alleviation, energy alone cannot cause it. Without being coupled with parallel infrastructures, energy supply becomes a luxury that poor people cannot afford. While we all accept that energy is a prerequisite for rural development, we recognize the need to first utilize it in income generating activities.

Economically and socially sustainable rural development must be supported by sustainable energy services. The following

elements define sustainable energy: (i) everyone is entitled to some minimal modern energy access, (ii) economic pricing should underlie the long-term use of energy, (iii) energy production or use should be sustained by the ecosystem.

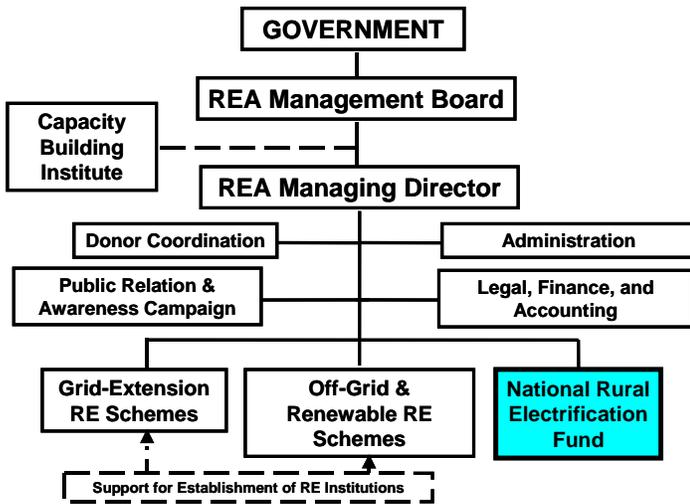
B. Policies for Increasing Access to Rural Energy Services

To expand access to energy services for people living in rural or remote areas, policies, institutions, and programs need to be developed and implemented. Some of the high priority actions include the following:

- Establishment of public institutions at the national and local levels – including regulations, taxation, incentive systems, legal frameworks and institutional mandates – dedicated to addressing and financing rural electrification and expanding rural energy services
- Affordable and accessible energy services to support rural development by increasing employment and income generation
- Expansion of electricity generation through centralized and decentralized systems using conventional or renewable energy based on the resources available locally
- Implementation of an integrated approach to the provision of rural services and “bundling” it with other rural infrastructure services – water, health, education, etc.

Several governments in Africa and Asia are considering the establishment of dedicated commercially-run institutions for planning and managing the rural electrification process. Various examples from Latin American countries and few from Asia have proven that these types of RE institutions are required in order for developing country governments to embark on and implement large scale RE programs and leverage substantial amounts of money by donors, private sector, and rural consumers themselves. Exhibit I represents CORE’s approach to the overall organizational structure of a rural electrification authority (REA), developed based on lessons learned and best practices worldwide.

Exhibit I: Overall Organizational Structure of REA



III. From Traditional Towards New Approaches to Sustainable Rural Energy Financing

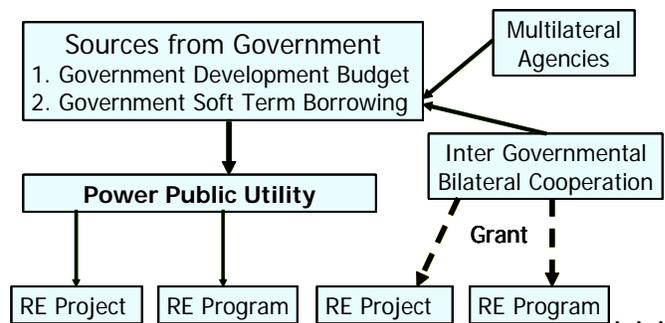
Although there is no generally accepted and practical definition for sustainable rural development, there is a clear framework for assessing sustainability of finance. The framework encompasses income statements and balance sheets which show whether an energy service entity is likely to meet its operating costs and finance its investments within a financial structure that does not jeopardize its creditworthiness. These are then translated into various measures such as rate of return, debt-equity ratio, self-financing ratio, etc., which can be monitored to ensure the entity's financial health. The bottom line of these measures is that in the long-term, rural consumer prices should be sufficient to cover all the capital and operating costs.

A. The Traditional Approach to RE Financing

Many real-life examples have proven that the theory of sustainable financing works out well for energy service delivery in urban areas of many countries. The problem arises in the case of rural areas, where the poor (for many recognized reasons) simply cannot afford to pay for energy at the same prices (and in many cases higher) as the people in urban areas can, and do. In responding to this issue and trying to solve the problem, governments and donors have, during the past 30-40 years, largely

agreed and arranged for the financing of RE in the way shown in Exhibit II. This exhibit provides a general picture of the traditional approach used by governments and donors to finance RES and rural electrification (RE) projects and programs in the developing world. Upon first glancing at this exhibit, we see that dedicated institutions in RES and RE, private sector, consumers, and civil society – who in recent years have become major players in the RE process – are missing. This RE financing model has proven to be unsustainable.

Exhibit II: The Traditional Approach to RE Financing



In the final analysis, this traditional approach has caused the following major implications:

- Donors and technology program financing have affected the rural energy market and discouraged other players
- Governments have been paying large amounts of untargeted subsidies, which in many cases have compromised the sustainability
- Governments have been heavily involved in project and program implementation with little or no commercial participation
- Negligence of markets and market-driven projects/programs, only top-down approaches have been implemented
- Economic feasibility has not been the focus

In recent years, governments and donors have realized that this approach cannot be sustained forever. They still face many challenges in the developing world, while the financial resources available cannot increase, as desired, and may even decrease. This new reality needs to be addressed with innovative visions and approaches.

In the following section, we will focus on innovative approaches to financing RE and RES on a macro level. This is because all micro financing institutions, mechanisms, and interventions (that in recent years have been emerging successfully in the micro level) need to be part of an integrated policy and institutional arrangement that will provide for efficiency and effectiveness. This will result in the sustainability of RE process toward the final goal of establishing rural energy markets.

B. Towards New Approaches to Rural Energy Financing and Markets

Presently, we face the reality where power utilities in Southeast Asia (traditionally assigned by governments with a central role in delivering relatively massive rural energy and electrification programs – as shown in Exhibit II) are committed to undergo deep reform and restructuring. Most of them now operate under some form of government ownership, implementing weak financial regimes. Their financial viability is the major reason behind their reform and commercialization, the goal of which is to move towards financial sustainability by increasing power tariffs to levels that pay for operating and capital costs. Some of the countries in the region have a long way to go to meet that goal.

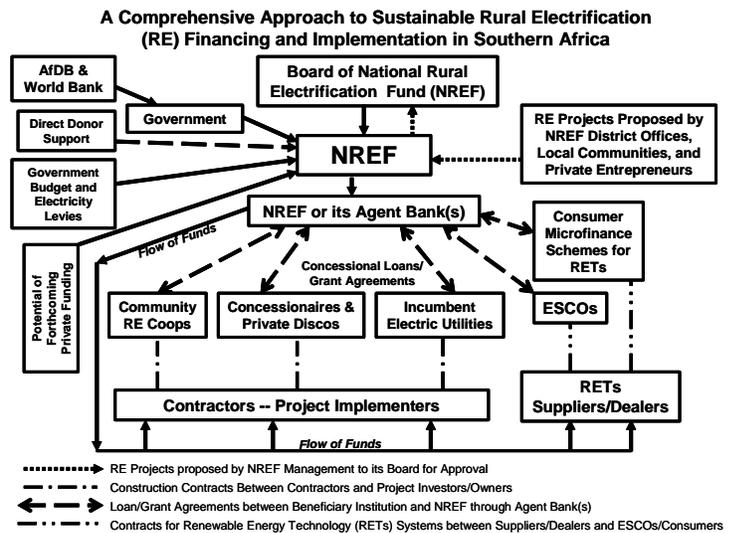
Under the circumstances of reform and commercialization, it is unlikely that national utilities would be willing to continue being involved in rural energy delivery or the electrification process. For this reason, politicians, governments, donors, private sector (technology producers and financiers), civil society institutions, and rural consumer themselves need to collaborate and identify innovative ways and means to finance massive energy service and electrification, primarily in rural areas.

In recent years, we see that various forms of private participation in rural energy services delivery are flourishing in the developing world (some of them also in the Southern African region). These forms of private participation include: (i) commercial finance – banks, (ii) commercial finance - rural saving & loans (S&L) cooperatives, (iii) rural energy investment funds, (iv) rural cooperative finance, (v) rural energy service

company (RESCO), (vi) “sweat equity” participation, and (vii) suppliers credits.

In the previous sections our objective was to make a convincing case for the need of private and consumer participation in RE and the RES process management and financing. Governments and donors need to revise the traditional roles they have played in the RE process (which some are already doing). While recognizing that a fully developed rural energy market is the goal and most desired option of offering RE and RES (which will take many years), we believe that transitory institutions and mechanisms need to be designed and implemented in the meantime. Exhibit III illustrates the assigned roles, relations, authorities, and responsibilities in the process of RE/RES process development, financing, and implementation.

Exhibit III: Sustainable Scheme for RE/RES Development



It has to be noted that a national rural electrification fund (NREF), run along commercial lines, is a crucial element of the whole scheme in Exhibit III, because it provides the opportunity for leveraging of government funding toward the NREF.

Box 1 shows Chile's successful example of rural electrification, where the electrification fund has been used for subsidizing capital investment in competitive basis. All RE stakeholders have played their roles and income generating activities have been in the focus of the program, which has provided for the sustainability of the RE process in Chile.

Box 1: Chile Rural Electrification Program of 1994

Chile launched a new RE program in the mid 1990s. A **Special Fund** for rural electrification was established in 1994. The RE program was designed to be compatible with the government's overall reform program for the electricity sector. The program was designed to reach 75% of the rural population by 2000. It was estimated that the central government would need to provide US \$150 million in subsidies to allow for the electrification of about 110,000 dwellings. Subsidies were allocated competitively as one-time direct subsidy to provide distribution companies to cover capital costs of grid extension. The operating costs were to be covered by tariffs set by the regulatory authority. Competition, private investment, and decentralized decision making have been the drivers of this program. The use of a subsidy has made rural electrification an attractive business opportunity. Government share of investment in the program declined from 70% in 1992 to 61% in 1999. The program increased the coverage of electricity in rural areas from 53% in 1992 to 75% by 2000.

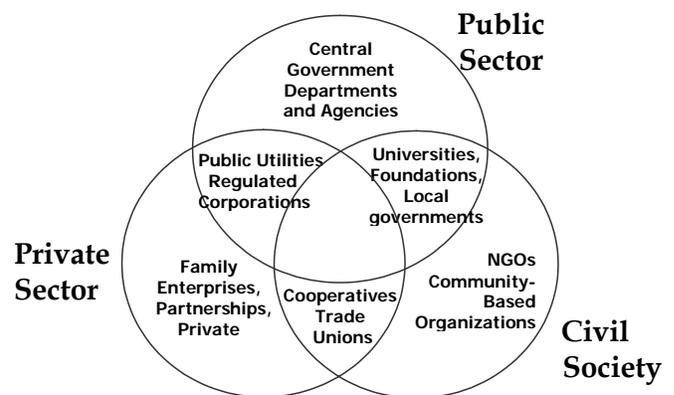
C. Public Private Partnerships – Why?

A Public Private Partnership (PPP) – a partnership between the public and private sectors for the purpose of delivering rural energy services – represents recognition that both the public sector and the private sector have certain advantages relative to the other in the provision of rural energy services in the most economically efficient manner by allowing each partner/sector to do what it does best. Private sector innovation and technological, financial, and management expertise can be gained only through using a PPP approach to programs such as rural energy delivery, which traditionally has been within the sphere of local authorities.

While public actors (domestic) are needed to create the appropriate environment for action through policies and incentives, energy service delivery to the smaller, poorer rural consumer needs a host of private actors for: (i) innovation and efficient delivery (e.g. private companies, entrepreneurs), (ii) local institutional support (e.g. NGOs), (iii) flexible financing

(e.g. private credit institutions, international financial institutions), and (iv) consolidation of lessons learned (e.g. NGOs, bilateral & multilateral organizations, research institutions) among others. Bilateral and multilateral organizations are crucial partners at the early stages, especially for mobilizing finance, building human capacity through technology transfer and knowledge exchange, and supporting interventions at the rural level. Exhibit IV summarizes the role of each partner in this type of partnership.

Exhibit IV: Public Private Partnership – Development Paradigm



Opportunities for establishing new and sustained market oriented partnerships between the public and private sector for financing RES do exist. Civil society can also play catalyzing role in this process, both in project and program level. As shown in Exhibit IV, the identified types of civil society institutions should contribute to both sides of any successful public private partnership – cooperatives and trade unions need to buy in and be partners in the private sector family, while universities and local governments can play an important role as partners of the public sector.

It is important to note that implementing bottom-up approaches that ensure public and consumer participation throughout the process of RE/RES designing, developing, funding, provision, operation, management, and ownership is crucial to successful and sustainable PPPs.

The Global Village Energy Partnership (GVEP) represents the very last worldwide partnership of partnerships program – an agreement of collaboration between multilateral institutions, bilateral donors, non-governmental organizations and developing countries' public institutions. The GVEP supports policy dialogue, capacity building, and financing mechanisms to expand access to energy services in rural areas, especially through support for the provision of electricity and cleaner fuels.

D. Rural Energy Market Realities

Two billion un-served customers represent a huge market potential. The problem is that this potential market has the following disadvantageous characteristics: (i) it is dispersed; (ii) it is disadvantageously located, thereby imposing logistical difficulties, and (iii) it provides limited demand and income resources to make the market attractive. Because of these disadvantages, the private sector has been reluctant to enter this market.

Another reality is that many 'best case' programs and projects in rural energy services worldwide, including the SARI/E region, have shown that people are willing to pay for energy. The poor spend up to 1/3 of their disposable income on mostly poor quality lighting. In many cases they have surprisingly proved their ability to pay for energy services and contribute their time and local resources when they are empowered to be part of the process, and owners of the energy delivery systems.

As in all types of markets, '*what the rural energy market wants*' is a critical element of its design. The characteristics of this market should drive its design process. Taking a bottom-up approach in the design process will increase the potential of building a sustainable rural energy market. Some of the critical design elements of this market are:

- Energy services should be first offered and provided to income generating activities. It would be best to integrate it with other programs supporting rural agriculture and other production activities.

- The poor need and can afford to pay for predictable energy service, which will let them adjust the consumption pattern, both in terms of quantity and timing, when the energy service is available.
- Energy tariffs should be affordable for the poor. Furthermore, the energy service payment schedule should be flexible to allow matching payments with cash receipt cycles.
- Decentralization, empowerment, and rural consumer ownership will support efforts of expanding this type of market by mobilizing local and rural financial resources.

Although all these elements are critical and need special attention, there exists yet another element without which rural energy markets cannot emerge. This is the subsidy.

E. Central Role of Subsidies

There is a wide consensus in the belief that subsidies are essential to expand rural energy services and rural electrification. The problem is to avoid life-time and untargeted subsidies by designing, developing, and implementing the types of subsidy programs that do not compromise the long-term sustainability of RES and RE programs, which they are dedicated to. The use of "smart" subsidies seems to be the solution to this problem. Some important elements in the design of such subsidy programs are the following:

- Design targeted subsidies to create intended markets, while achieving social goals and not distorting rural energy markets by providing a leveled paying field for all market actors.
- Encourage least-cost options by (i) introducing competition for subsidies, and (ii) implementing 'lighter' and unconventional RE system design and construction.
- Provide the best (i.e. most efficient, effective, and transparent) system for subsidy delivery.
- Build prior consensus and awareness among politicians, consumers, and other stakeholders on the objectives, targets, and duration of subsidy programs.

In summary, a good subsidy program should have a clear target market and support only upfront one-time capital costs (e.g. cost of connection). This type of subsidy, when designed and allocated appropriately, will at least initially bring the energy rates and prices to affordable levels for the rural poor.

Energy market issues, and the role and impact of subsidies have been a concern in recent years for almost all energy policymakers throughout Africa. Box 2 summarizes the challenges the policymakers are facing and dealing with.

Box 2: Identifying Challenges for Policymakers in the Area of Energy Subsidy Reform in Africa

1. Rationale and Goals for Energy Subsidies in Africa

Common messages that have emerged from all African countries are the following:

- There is a need to better define the linkages between energy subsidies and sustainable development. This means ensuring that the economic, environmental and social rationales for introducing subsidies in place are made transparent their attainment is monitored.
- Energy pricing needs to take account of the needs of poor households and rural communities, including access to modern forms of energy.
- It is important to determine when subsidy reform is desirable, and to quantify the costs and benefits of the reform using an integrated analytical approach.

2. Impacts of Subsidies

Subsidies to electrification, solar photovoltaics, LPG and kerosene, petrol, and nuclear power have raised a number of important issues:

- The assessment of the impact of subsidies and subsidy reform must cover the different sectors of the economy and whether they go to production or consumption.
- Decisions to subsidize a source of energy should be based on thorough analysis or feasibility studies covering the economics of all energy supply options, involving quantification of the number of needy households and assessment of the financial cost and other effects of implementing the program. This requires the collection of

comprehensive, comparable and reliable data.

- The political consequences of subsidy removal need to consider the use of measures that offset subsidies such as fuel and green taxes.

Source: Energy Subsidy Reform and Sustainable Development: Challenges for Policymakers, UNEP/IEA, April 2001

IV. Lessons Learned and Way Forward

There are many lessons learned in the area of sustainable RES and RE financing. The most important ones, in our view, are the following:

- It is clear that governments and donors alone cannot raise enough funds to meet the challenges of RES and RE. Moreover, power sectors are undergoing reform and restructuring towards commercialization and open markets; and under these circumstances, the traditional approach of engaging national power utilities in massive subsidized rural electrification processes cannot be sustained in the future. Therefore, other players and stakeholders have to come on board with substantial financing for RE programs. These stakeholders include, at first, the private sector and rural consumers themselves.
- The power sector restructuring and reform events and the challenging goals on rural energy and electrification set by the governments in Southeast Asia pose major implications requiring change in the philosophy, perception, conception, design, development, implementation, management and operation, and ownership of the whole RE process. New approaches should be implemented in addressing institutional and financing issues for RES and RE. The implementation of bottom up approaches and the inclusion of all stakeholders in the process of RE and RES financing and management is crucial to sustainability and poverty alleviation. RES institutions and funds at the national levels have proven to be effective instruments in delivering well coordinated and large scale electrification and energy service programs.

- Various forms of partnerships for RE development and financing should be explored. All of them have to assign a specific role for civil society institutions. Partnership roles and relations, as well as financing approaches to the RE and RES should be developed in an open and fair market environment for rural energy services. These markets should be designed based on their specific characteristics without being distorted by subsidies. Smart subsidy programs need to be designed appropriately in order to avoid negative impact on rural energy markets.

Way Forward.

There are numerous areas that will have to be focused and improved upon for the future, which include (i) broadening the range of energy delivery mechanisms and bringing new players in the scene, (ii) ensuring that rural energy markets are open to competition, transparent, and let the private sector and consumers be the major players in it, (iii) ensuring that all grants, concessions, and other subsidized interventions do not distort the emerging markets and maximize the benefits of all types of subsidization, (iv) enhancing coordination among all RE stakeholders, including donors, and directing their interventions towards market oriented forms of RES delivery, (v) having governments play the lead role in establishing the right environment for RES and RE development, and (vi) implementing bottom-up approaches that ensure public and consumer participation throughout the process of RE/RES design, development, funding, provision, operation, management, and ownership.

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Windhoek, Namibia





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“Innovative Approaches for Financing Rural Energy Services – An Overview”



1. Objective

- ❑ Discuss some options of arrangements for facilitating the environment for mobilizing private sector and consumer finance participation in the process of rural energy service (RES) delivery
- ❑ Present (macro level) innovative approaches for financing sustainable RES and rural electrification (RE) in the context of emerging rural markets and changed role for subsidies
- ❑ Provide examples to illustrate that the proposed innovative approaches for financing RES can work in an appropriately changed environment



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2. Introduction

- ❑ What does poverty alleviation mean?
- ❑ Two challenging key issues of increased access to rural energy services (IARES):
 - Find the best way to make IARES a high government priority by incorporating it in the government’s poverty reduction strategy (PRS) papers and other national development plans
 - Define the best policy framework to enhance the environment for increased private funding to IARES, so as to have the government in the role of ‘leveraging’ financing



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3. Policies and Institutions for Sustainable Rural Energy Services (RES)

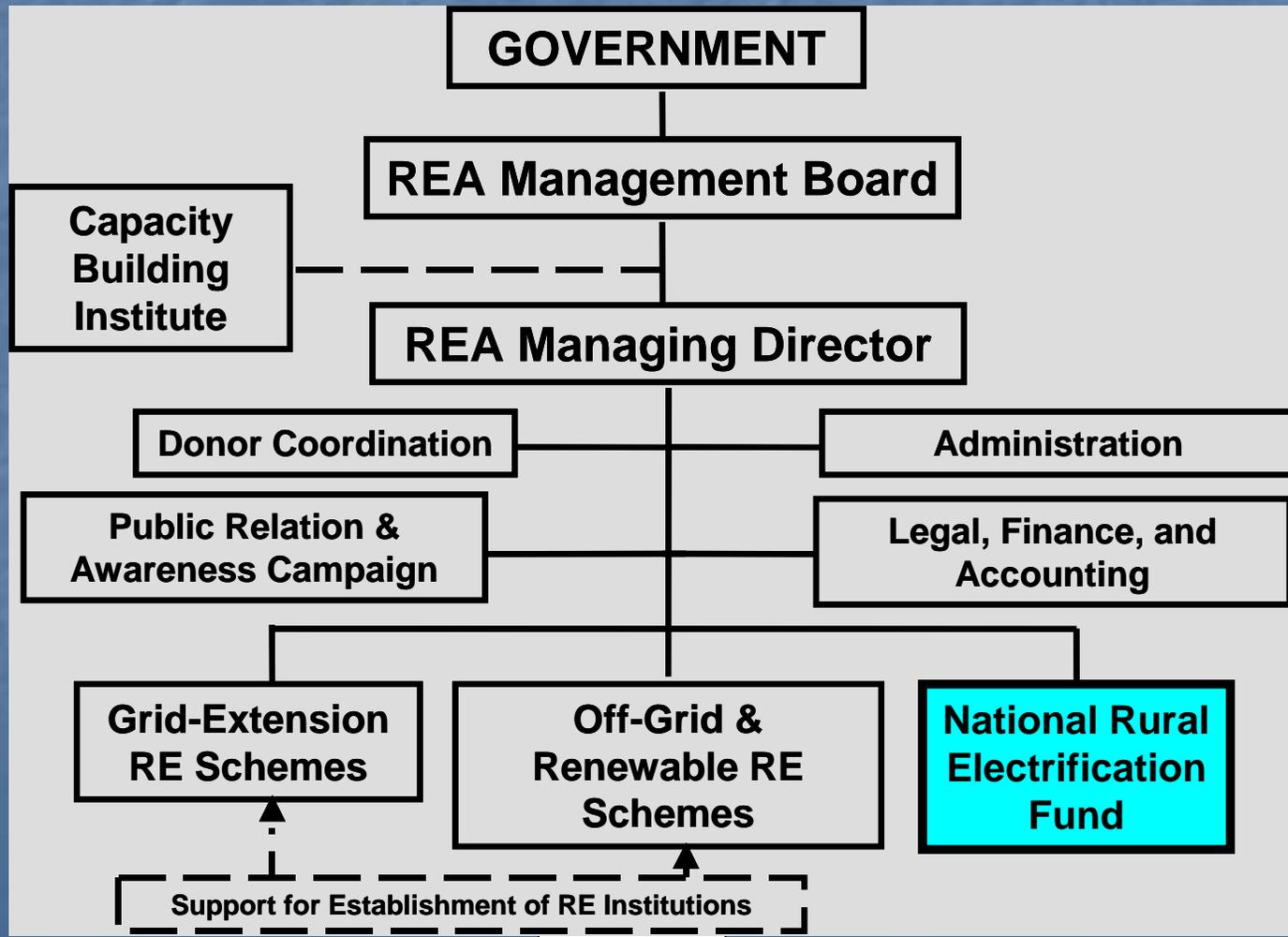
- ❑ Energy alone cannot bring about rural development
- ❑ Policies to increasing access to RES – Key policy actions:
 - Establishment of public institutions for supporting RES process (*see next slide*)
 - Make RES affordable - for increasing employment and income generation
 - Integrated approach to RES – bundle it with other basic rural infrastructure services



“Innovative Approaches for Financing Rural Energy Services – An Overview”



3. Policies and Institutions for Sustainable Rural Energy Services – *Rural Electrification Authority*

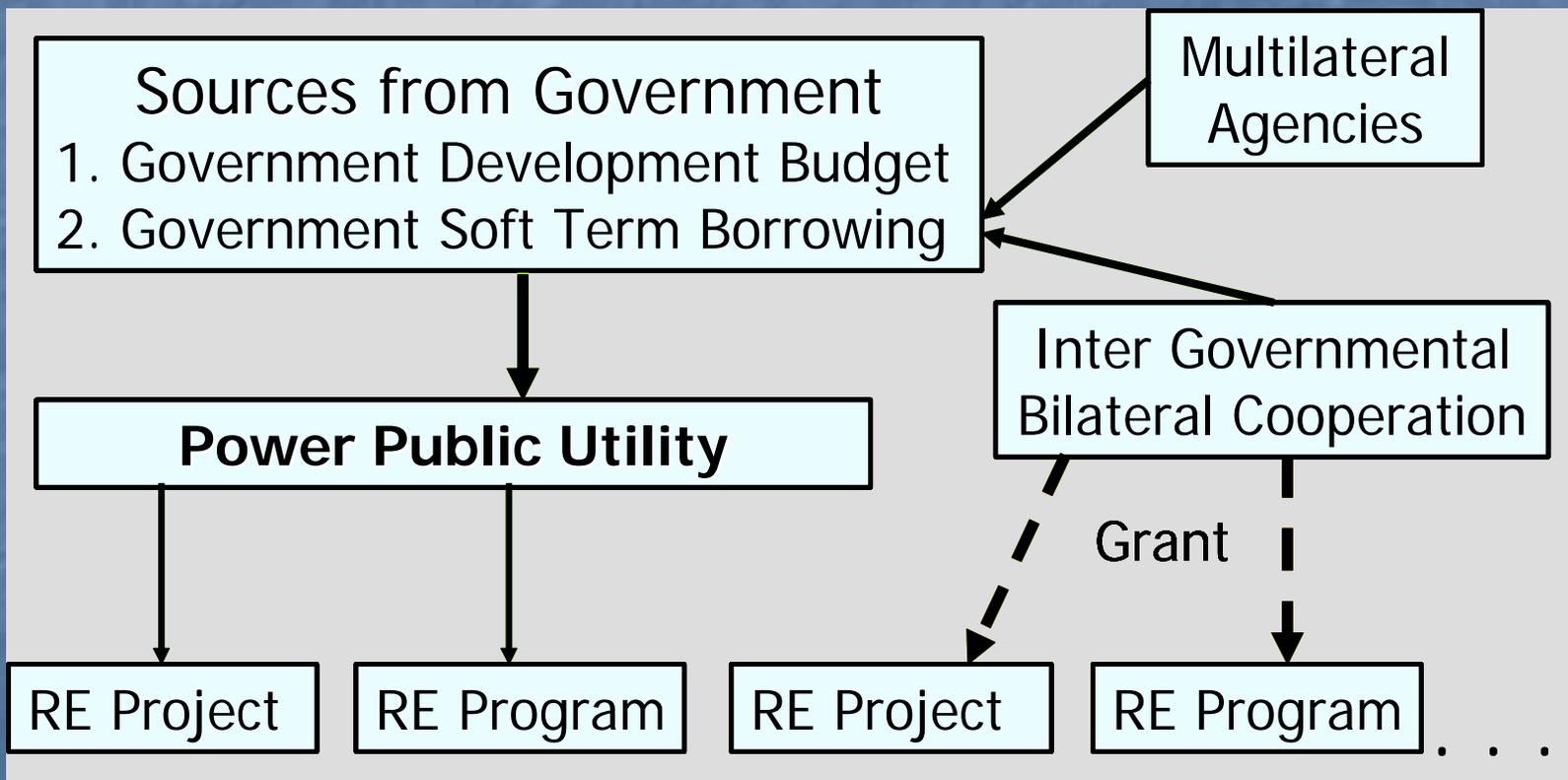




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4. From Traditional Towards New Approaches to Sustainable Rural Energy Financing – *Traditional Approach*





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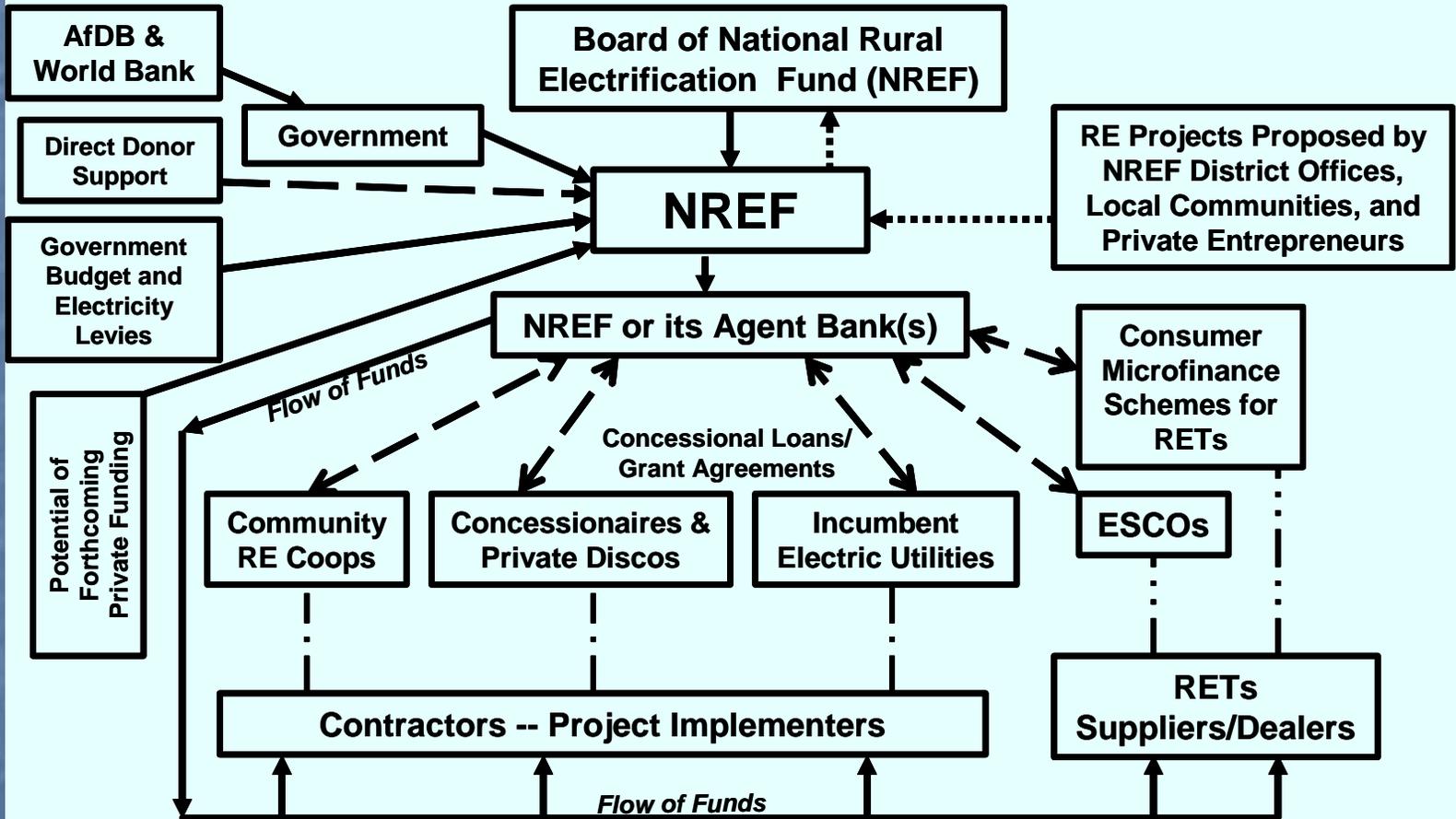
4. From Traditional Towards New Approaches to Sustainable Rural Energy Financing – *Traditional Approach* (cont'd)

- Donors and technology programs' financing have discouraged rural energy markets
- Governments' untargeted subsidies have compromised the sustainability of rural energy delivery systems
- Governments have been implementing projects and programs with little or no commercial participation
- Mostly top-down and non-market approaches have been implemented
- Economic feasibility has been outside the focus

"Innovative Approaches for Financing Rural Energy Services – An Overview"



A Comprehensive Approach to Sustainable Rural Electrification (RE) Financing and Implementation in Southern Africa



-➔ RE Projects proposed by NREF Management to its Board for Approval
- Construction Contracts Between Contractors and Project Investors/Owners
- ← — — — —➔ Loan/Grant Agreements between Beneficiary Institution and NREF through Agent Bank(s)
- Contracts for Renewable Energy Technology (RETs) Systems between Suppliers/Dealers and ESCOs/Consumers

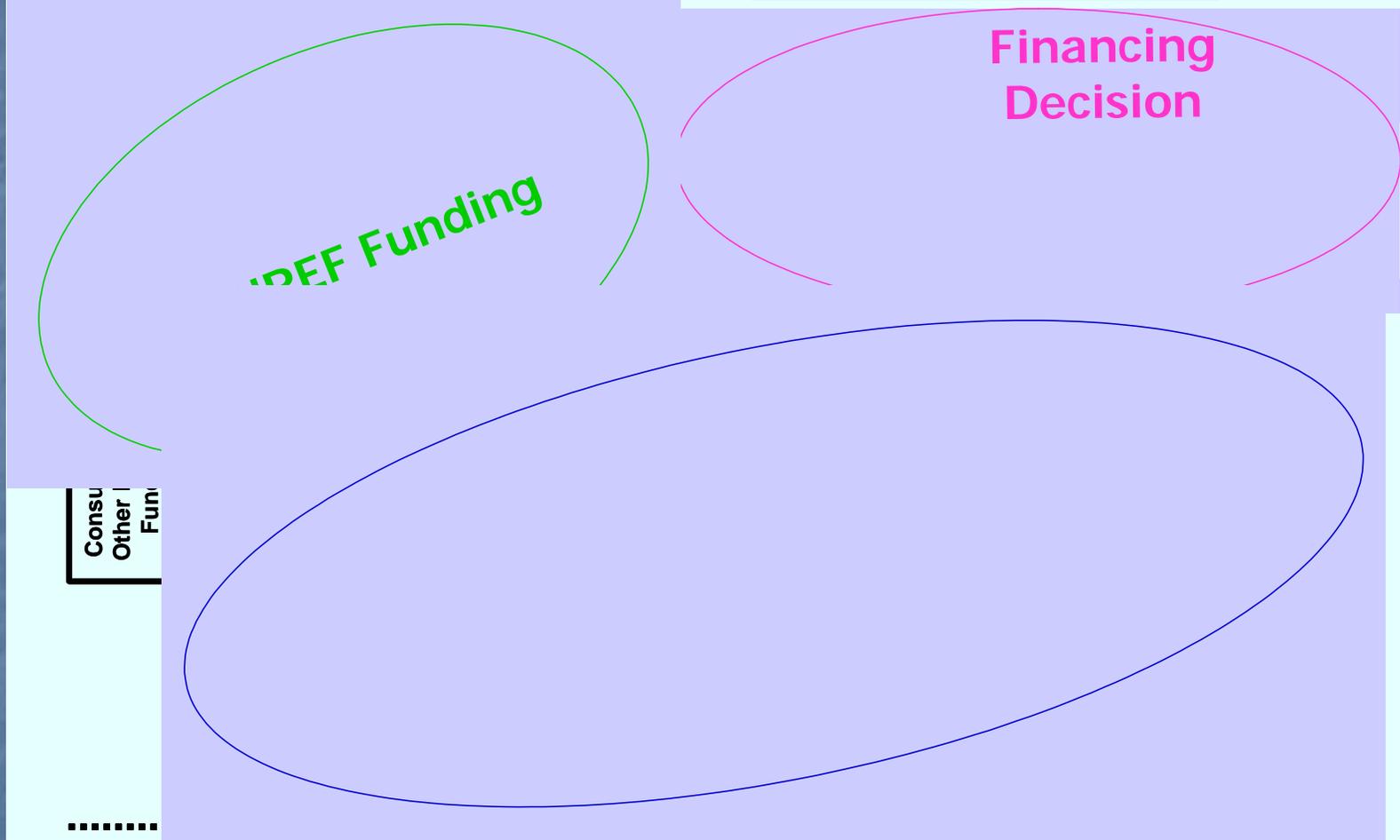
4. From Traditional Towards New Approaches to Sustainable Rural Energy Financing – New Approach



"Innovative Approaches for Financing Rural Energy Services – An Overview"



A Comprehensive Approach to Sustainable Rural Electrification (RE) Financing and Implementation in Southern Africa -- Areas of Involvement/Responsibility



-
- Construction Contracts Between Contractors and Project Investors/Owners
- ← --- → Loan/Grant Agreements between Beneficiary Institution and NREF through Agent Bank(s)
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4. From Traditional Towards New Approaches to Sustainable Rural Energy Financing – *New Approach*





“Innovative Approaches for Financing Rural Energy Services – An Overview”



4. From Traditional Towards New Approaches to Sustainable Rural Energy Financing – *Public Private Partnerships (PPPs) for RES*

- ❑ A PPP represents a process of recognition in which both the public sector and the private sector have certain advantages relative to the other in the provision of rural energy services (RES)
- ❑ Private sector innovation and technological, financial, and management expertise can be gained through using a PPP approach to programs such as rural energy delivery, which traditionally has been within the sphere of public authorities



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4. From Traditional Towards New Approaches to Sustainable Rural Energy Financing – *Public Private Partnerships (PPPs) for RES (cont'd)*

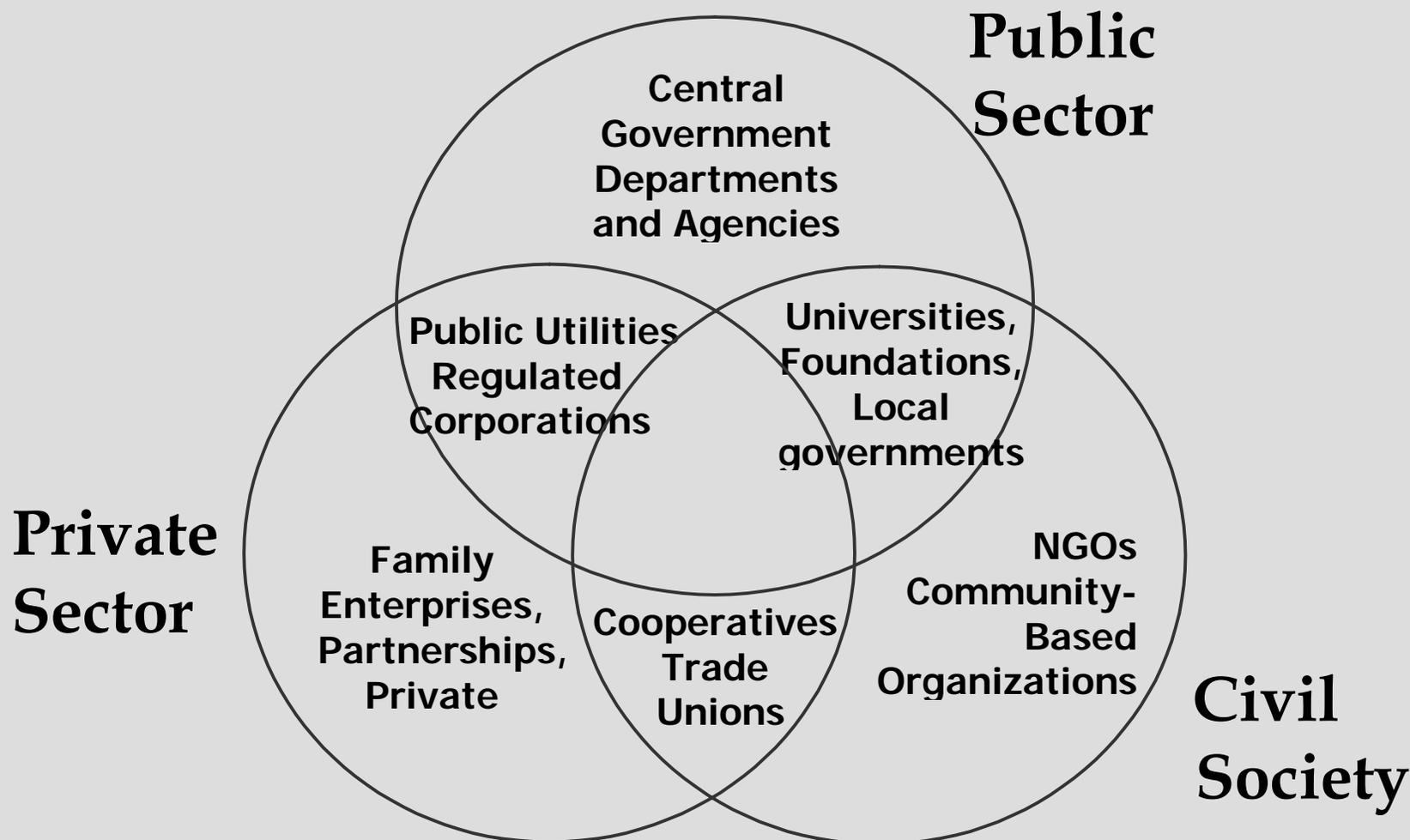
- RES delivery needs a host of private actors for:
 - Innovation and efficient delivery (e.g. private companies, entrepreneurs)
 - Local institutional support (e.g. NGOs)
 - Flexible financing (e.g. private credit institutions, international financial institutions)
 - Consolidation of lessons learned (e.g. NGOs, bilateral & multilateral organizations, research institutions, among others)



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4. From Traditional Towards New Approaches to Sustainable Rural Energy Financing – *PPPs’ development Paradigm*





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4. From Traditional Towards New Approaches to Sustainable Rural Energy Financing – *Rural Energy Market (REM) Realities*

- ❑ Two billion un-served customers worldwide – a large potential market
- ❑ REM characteristics – dispersed, disadvantageously located, limited demand, and low income resources to make the market attractive
- ❑ Many ‘best case’ programs and projects in rural energy services worldwide, including the South Asia Region, have shown that people are willing to pay for energy. The poor spend up to 1/3 of their disposable income on mostly low quality lighting



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4. From Traditional Towards New Approaches to Sustainable Rural Energy Financing – *Rural Energy Market (REM) Realities (cont'd)*

- Critical elements for RES market design:
 - What the market wants? Take bottom-up approach
 - Offer RES to income generation activities first
 - Provide affordable and predictable RES
 - Design affordable tariffs for the poor. Match payment schedule with cash receipt cycles
 - Decentralization, empowerment, and rural consumer ownership will mobilize local financial resources



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4. From Traditional Towards New Approaches to Sustainable Rural Energy Financing – *Central Role of Subsidies*

- ❑ Subsidies are essential to expanding rural energy services and rural electrification
- ❑ “Smart subsidy” programs – major elements:
 - Design targeted subsidies to create intended markets
 - Encourage least-cost options by (i) introducing competition for subsidies, and (ii) providing for the implementation of ‘lighter’ and unconventional RE system design and construction



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4. From Traditional Towards New Approaches to Sustainable Rural Energy Financing – *Central Role of Subsidies – (cont'd)*

- ❑ Subsidies are essential to expand rural energy services and rural electrification
- ❑ “Smart subsidy” programs – major elements: *(cont'd)*
 - Provide the best (i.e. most efficient, effective, and transparent) system for subsidy delivery
 - Build prior consensus and awareness among politicians, consumers, and other stakeholders on objectives, targets, and duration of subsidy programs



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5. Examples – National Electrification Funds

Chile Rural Electrification (RE) Special Fund (SF)

- New RE program and SP in 1994*
- RE program compatible with the government's overall reform program for the electricity sector*
- The program designed to reach 75% of the rural population by 2000, and 100% by 2004*
- Government to provide US \$150 million in subsidies*
- Subsidies allocated competitively as one-time direct subsidy competition, private investment, and decentralized decision making – have been the drivers*
- Government share of investment declined from 70% in 1992 to 61% in 1999*
- The program increased the coverage of electricity in rural areas from 53% in 1992 to 75% by 2000*

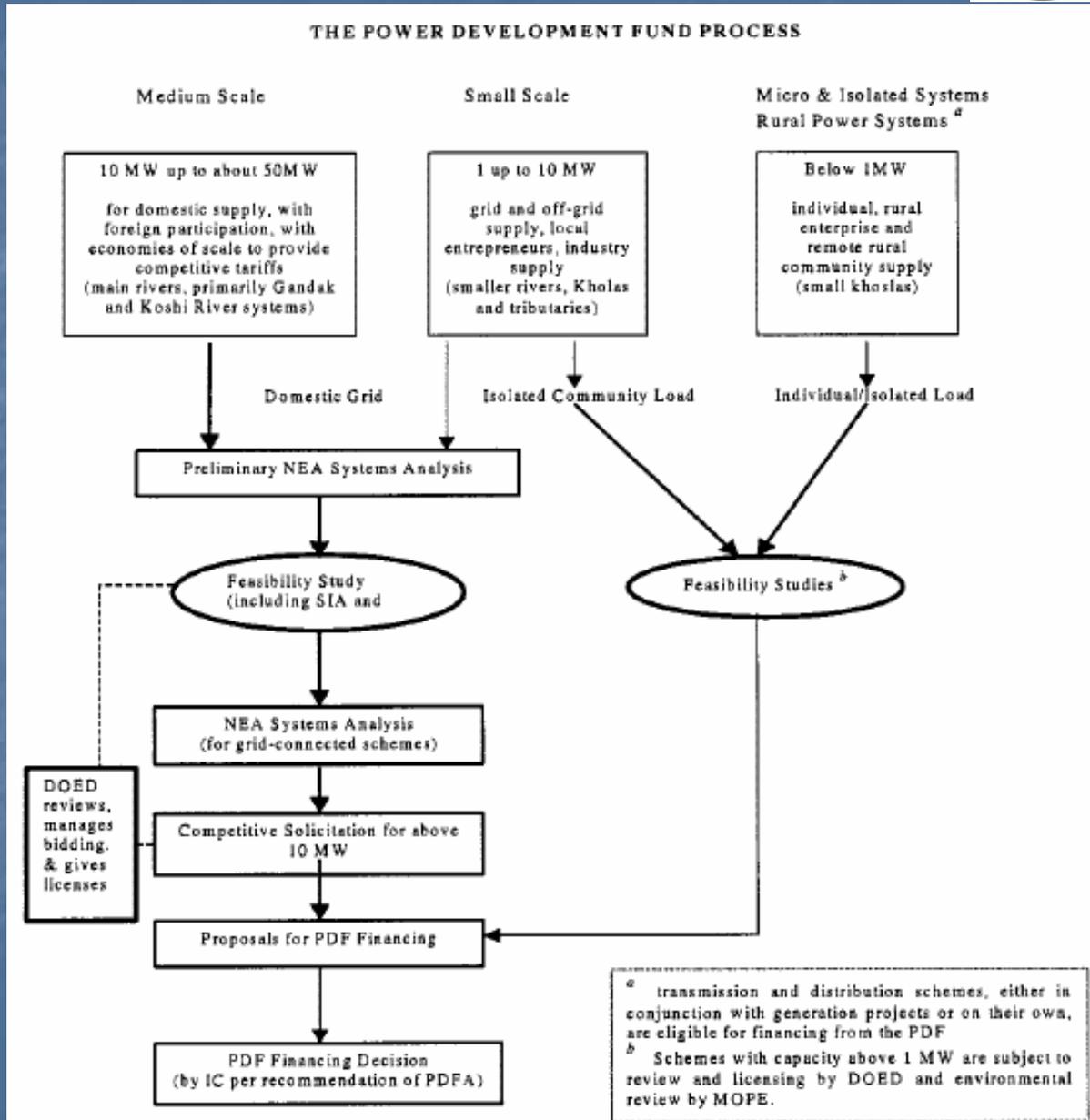
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5. Examples – National Electrification Funds (cont'd)

A new Power Development Fund is to be established soon in Nepal with the support of the World Bank

Source: The World Bank Project Appraisal Report – Nepal Power Development Project 2003



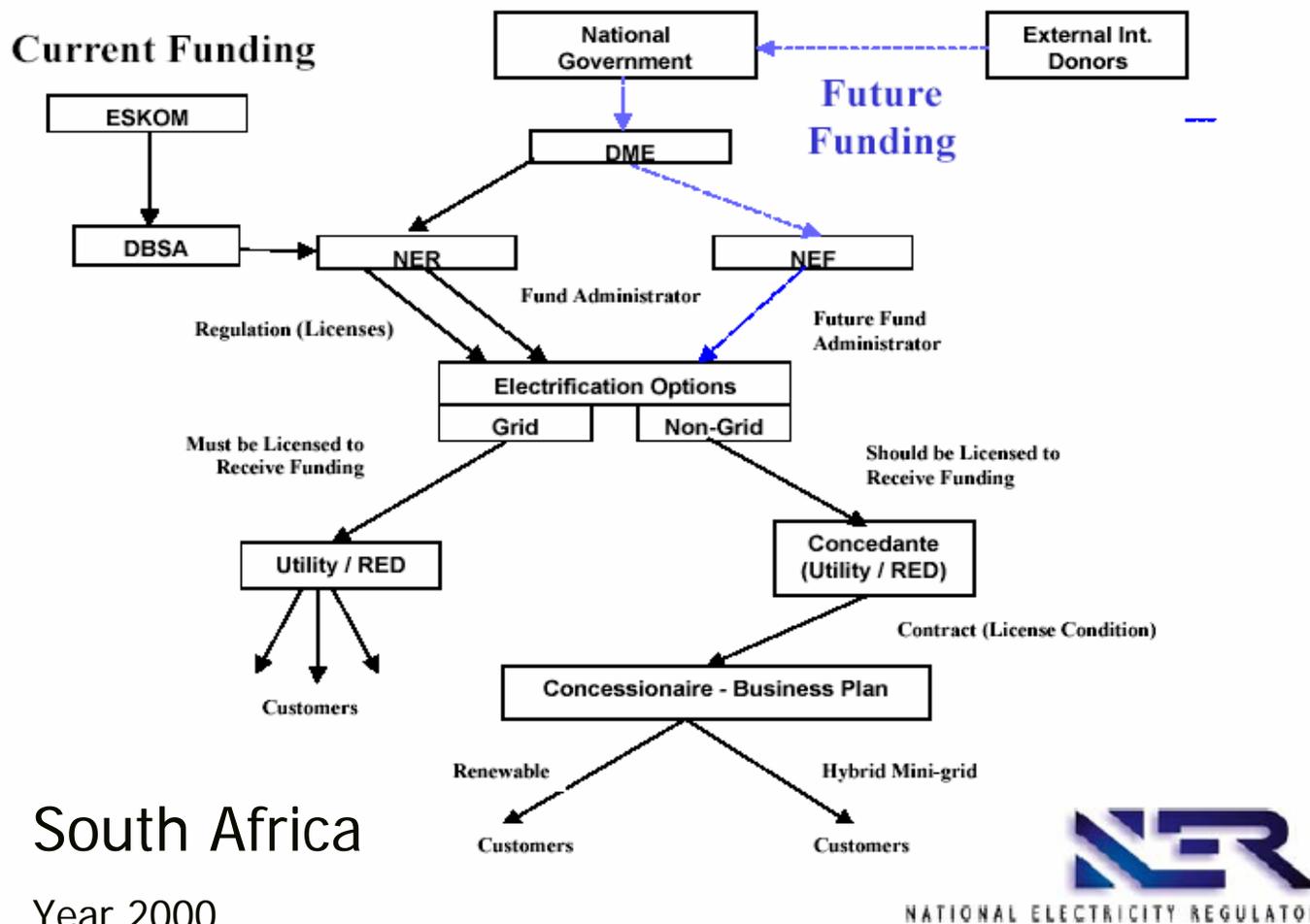


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5. Examples – Electrification Fund in South Africa

ELECTRIFICATION FUNDING PROCESS





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5. Examples – Subsidy Programs

Exclusive Concessions with Lowest Subsidy Rural Electrification Program in Argentina

- Program, through competition, pays private operators the lowest subsidy required to connect consumers to off-grid services based on renewable energy*
- Concessionaires must provide service to all who ask for it within an exclusive area*
- Connection costs are partially subsidized by a World Bank loan, a Global Environment Facility grant, and a special electricity fund run by the Argentine government*
- Users must contribute at least 10 percent of the costs*
- The program, at a cost of US\$120 million, will cover about 70,000 households and at least 1,100 schools and clinics*



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6. Lessons Learned and Way Forward

- ❑ New environment requires that other players and stakeholders come on board with substantial financing for RES and RE programs
- ❑ Changes are required in the philosophy, perception, conception, design, development, implementation, management & operations, and ownership of the whole RES/RE process
- ❑ Various forms of partnerships for RES/RE development and financing should be explored in the context of the emerging RES/RE markets in each country setting. “Smart”, widely accepted, subsidy programs should be designed and implemented without distorting the emerging markets



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6. Lessons Learned and Way Forward

- ❑ Broaden the range of energy delivery mechanisms and bring new players in the scene – *Implement a bottom-up approach*
- ❑ Ensure that rural energy markets be open to competition, and let the private sector and consumers be the major players in it
- ❑ Ensure that all grant, concession, and other subsidized interventions do not distort emerging markets
- ❑ Enhance coordination among all RE stakeholders
- ❑ Have governments play the leading role on facilitating the establishment of the right environment for RES and RE development