

LESOTHO ELECTRICITY AUTHORITY

LEA CONSULTATION PAPER

THE ROLE OF SUBSIDIES IN ELECTRIFICATION

A. The Role of Electricity Subsidies

It remains the case that high-income households have electricity, and most low-income rural households do not. This is also the case for petroleum products; their supplies are often irregular in rural areas. In most cases, limited access, a high percentage of income spent on energy, and significant amount of time spent on collecting biomass fuel for cooking, have all been cited as reasons for providing energy subsidies to encourage the poorest households to use high-quality fuels. The access barriers are common for electricity and liquefied petroleum gas (LPG) due to the requirement for full up-front payment costs. This limits the ability of the poor to obtain such energy services, even though they may be able to afford the monthly energy service expenses.

Many rural poor people desire the use of modern energy services such as electricity, kerosene and LPG. The table below summarizes the benefits that could be derived from availability of modern energy services.

Table 1: Relationships between energy and national development goals

National Development Goal	Importance of energy to achieving the goal
To foster the Economic development	<ul style="list-style-type: none"> • Facilitates enterprise development • Enhances income-generating activities beyond day light hours • Allows for community-based energy/multi-sectoral organisations and job creation. • Allows for improved food storage, processing, preservation and refrigeration.
Facilitate primary Education and access to information	<ul style="list-style-type: none"> • Good quality lighting permits home study • Allows for evening classes and helps retain qualified teachers in rural areas, especially when their accommodation has electricity. • Enables access to educational media and communication in schools

	<p>and at homes that increase education opportunities and allow distance learning.</p> <ul style="list-style-type: none"> • Improves teaching methods through the use of equipment such as overhead projector, computer, printer, photocopier, and other science equipment.
Gender equality and women's empowerment	<ul style="list-style-type: none"> • Availability of modern energy services allows girls and women enough time for income-generating activities such as food processing, baking and others. • Street lighting improves women security and safety at night.
Contribute towards improved health	<ul style="list-style-type: none"> • Allows for reduction in indoor pollution that normally causes respiratory infection. • Provides access to better medical facilities for maternal care including medicine refrigeration, equipment sterilization and operating theatres. • Provides opportunity for retaining qualified doctors and nurses in rural areas for availability at night. • Helps in production and distribution of sex education literature and contraceptives. • Enables pumped clean water and purification.
Environmental sustainability	<ul style="list-style-type: none"> • Traditional fuel use contributes to soil erosion, reduced soil fertility and desertification. • Efficient use of energy helps to reduce local pollution and improve conditions for poor people. • Clean energy production can encourage better natural resources management including improved water quality.

However, the up-front investment by the private or even public business to reach the low-income customers cannot justify the resulting small revenue flows, especially for energy business with short-term costs at the initiation of service or over a short period of time. As a result, the businesses have little incentive to market energy services to serve the poor segment of the population. A subsidy can,

therefore, be used to assist poor households, where services, are nonexistent in obtaining higher-quality energy services. However, these subsidies should be directed at encouraging access to services rather than helping to cover the operating costs of providing the services.

The design and implementation of subsidies should also not be viewed as a static process, That is, subsidies should be structured in such a way that they encourage provision of service at least cost (cost-effectiveness), achieve social goals at the lowest program cost while providing incentives to businesses to serve the poor and rural communities (sector efficiency), and finally, they must reach those for whom they are intended with minimum errors of inclusion and exclusion (efficacy).

Table 2 below summarizes the assessment of subsidy mechanisms by their relative efficacy, sector efficiency, and cost-effectiveness.

Table 2: Assessing alternative energy (electricity) subsidy mechanisms for the poor

Subsidy mechanism	Sector efficiency	Efficacy	Cost-Effectiveness
Subsidy directed to service provider (supply side)			
Subsidy for bulk power supply			X
Direct operating subsidy			X
Capital subsidy			X
Financing subsidy			X
Subsidy directed to consumer (demand side)			
Direct connection subsidy to non-service provider	X	X	
Connection subsidy through service provider	X	X	X
Credit for new connection	X	X	
Direct or consumption subsidy to low power Users (lifeline rate)		X	X
Cross-subsidy to low power users lifeline rate)		X	X
Consumption subsidy for all consumers			

Source: World Bank article by Douglas F. Barnes and Jonathan Halpern, (2000)

From the above table, it can be concluded that demand-side subsidies have better targeting properties, and in the case of subsidized connection costs, provide better incentives for efficient service delivery. Subsidies for connections through budgetary transfers provide better incentives to expand coverage than cross-subsidies or any of the supply-side subsidies. The only problem with this sort of demand-side subsidies is that they generally require an administrative and institutional superstructure to identify and verify target beneficiaries independently of the service provider.

Sources of subsidies may include cross-subsidization between user groups, subsidized interest rates on loans, equity investment by a government to promote service expansion, taxes earmarked for a subsidy fund, and government budgetary contributions.

Therefore, subsidies should be used with the main objectives of first, assisting the poor in gaining access to higher-quality services, which points towards having a subsidy that helps lower up-front costs for the poor consumers. Secondly, provide business incentives to serve rural and poor consumers who would not otherwise be served, without significantly distorting energy markets and without having the government as the major customer for equipment. The government should play a key role in the form of technical assistance, research, and advice to communities on energy options.

B. Mechanism for Making Subsidies and Technical Assistance Broadly Accessible.

There must be well-developed mechanisms for making subsidies and assistance broadly accessible, and these include:

- **A broad universe of projects to choose from:** Funding agencies prefer to have a wide range of projects to choose from so that only those with best demand profile and organizational makeup and adequate willingness and capacity to pay are selected for financial support. Marginal users will only become feasible as the market develops. However, such market development can be stimulated through information dissemination by agencies involved via

various media channels (radio and television broadcasts, brochures, posters, newspapers, and etc)

- **Technology selection methodology:** The energy development companies must identify, develop, and publicize tools for selecting a specific technology. This helps project developers, governments and donors to assess whether their resources are being allocated optimally. Such tools should also be linked to market related information.
- **Appropriate system designs.** System designs should meet the customer's functional requirements (they should not be oversized or under designed, taking into account future expansion). Functional requirements or design parameters for all off-grid technologies are required by financiers (subsidizers) to ensure that the least cost options have been attempted without compromising the quality of service standards. These standards need to be appropriate and flexible, and customers must have a choice so that they understand the price-quality tradeoff in advance.
- **Technical support:** Training and organizational development should form part of the initial investment package. For home (PV) systems, the bidding documents must include training on how to use, maintain, and replace the systems. The organizational development should be budgeted for and included in the financial package, including any subsidy.
- **Competitive procurement of goods and services:** Transport and open competition among equipment and service providers, under appropriate bidding terms and conditions, provides opportunity for cost minimization, and standard bidding documents for different technologies are often desirable.
- **Reporting and follow-up:** Upfront subsidies create the least dependency and permit the least bureaucracy. However, intensive follow-up is essential to ensure that systems are being used and maintained properly. Normally feedback reports minimize future mistakes.

C. Recommended Approach in Designing Electricity Subsidies in the Country

In order to address the above-mentioned national development goals as outlined in the national poverty strategy paper, electricity connection subsidies should be provided to ease communities' access to electricity. The subsidy award should be in line with project evaluation criteria contained in the Universal Access Fund Rules. In addition, a well-targeted lifeline tariff should be implemented. This means electricity consumers who use less or a pre-determined number of kilowatt-hours per month should get free units. This life-line consumption could be 50kWh or less.

D. STAKEHOLDERS INPUTS REQUESTED

Electricity access in the country remains low at around 19%. This is so despite massive electricity infrastructure development over the past eight (8) years. Almost all major urban centres in the country have electricity. But, there are still households who do not have electricity connection to their house.

The Lesotho Electricity Authority (LEA) is of the view that increasing electricity access to large proportion of the households can make a significant contribution in economic growth and development.

The Authority is therefore considering pro-poor pricing mechanisms that are aimed at assisting poor households gain access to electricity. In order to assist the Authority in designing an appropriate and relevant solution to the problem, stakeholders are requested to provide comments on the following:

- 1. The basic household electricity needs that could be met through electricity subsidy for the poor households;**
- 2. The amount of electricity units required per month to supply basic needs;**
- 3. How electricity consumption should be measured for the low-consumption households;**
- 4. How should a subsidy be financed;**
- 5. The selection criteria for the eligible households for electricity consumption subsidy;**
- 6. The size of circuit breaker that is required for low consumption households;**
- 7. How customers who are no longer entitled to electricity subsidy should be upgraded;**

8. Any other comments or proposals to the LEA related to the electricity subsidy issues.

Stakeholders' comments should be sent to the following:

Chief Executive or Economics Director or Executive Secretary

6th Floor Moposo House, Kingsway

Private Bag A315

Maseru 100

E-mails: Chiefexecutive@lea.org.ls or economics@lea.org.ls or secretary@lea.org.ls

The consultation document will be available on LEA Web site: www.lea.org.ls or at LEA offices.

Those who would like to make oral hearing before the LEA Board should make such indications on their submissions.

The deadline for submission of comments on the design of pro-poor pricing mechanism is 30 September 2009.