



Global Environment Facility

September 12, 2000

Mr. Lars Vidaeus
GEF Executive Coordinator
World Bank
Washington, DC 22043

Dear Mr. Vidaeus,

I am pleased to inform you that the request for \$275,000 in PDF resources for the project proposal *Mozambique: Rural Energy Development (Solar PV Component)*, has been approved by the CEO following receipt of endorsement letter on August 28, 2000. The proposal has earlier been approved for entry into the GEF Pipeline at a Bilateral Review Meeting between the GEF Secretariat and the World Bank on January 20, 2000.

It is understood (i) that during preparation, the comments of Council members, Implementing Agencies, and other organizations will be taken into account to address technical issues and to ensure coordination of activities, and (ii) that when the project is submitted for Work Program inclusion it will be well advanced in preparation and responsive to the general project review criteria as well as to specific comments in the Secretariat's Project Review Sheet.

Please find attached a copy of the Project Tracking Sheet for your records.

Sincerely,

Kenneth King
Assistant Chief Executive Officer

Global Environment Facility Proposal for a PDF Block B Grant

Country:	Mozambique
Project:	Rural Energy Development (Solar PV Component)
GEF Focal Area:	Climate Change
Operational Program:	OP 6 (Barrier Removal)
Project Cost:	US\$35 M (overall)
Financing:	\$8 M IDA, \$2.5-3 M GEF, other donors, private sector
Requesting Agency:	World Bank
Executing Agency:	DNE and World Bank (Split Arrangement)
PDF Block B Request:	\$275,000
Co-financing:	TBD (bilateral donor funds)
Block A Grant Awarded?	no

1. Background

1.1 Sector Context

After many years of civil strife and state control of the economy, Mozambique has made a dramatic transition to peace, democracy, and private-sector led economic growth during the 1990s. The transition appears to be sustained and the development process is taking root – the second parliamentary and presidential elections have just been completed, partial debt relief under the Highly Indebted Poor Countries (HIPC) initiative has been granted, and non-inflationary economic growth is continuing (an average of 10+% p.a. in real terms between 1996 and 1999). However, poverty remains extensive, and the country is heavily dependent on foreign aid.

Mozambique is rich in modern energy resources – hydropower, natural gas, and coal – and can exploit them for exports (to neighboring countries or overseas); the domestic markets for electricity and fossil fuels are extremely small and serve a very small portion of the population, concentrated mainly in Maputo and a few other cities. The Government of Mozambique (GoM) faces two primary challenges in the energy sector: (i) prudent management of planned mega-projects for energy or energy-intensive products, primarily for exports, and (ii) expansion of the domestic energy markets.

In relation to rural energy, the primary challenges for Mozambique are to:

- ***Increase the access of rural households, enterprises and community institutions to modern energy in general, and electricity in particular.*** At present, the domestic power and petroleum fuels markets serve a very small portion of the population, concentrated mainly in Maputo and a few other cities. In particular, only 5-6% of all households have access to electricity, and two-

thirds of those households are in Maputo and surrounding areas¹. For Mozambique's population outside the main urban areas, electricity access is minimal, and there is practically no increase in the last 25 years. Given the current extremely low rate of rural electrification, and the expected growth in the number of rural families, a "business-as-usual" strategy, based on an evolving status quo, will be unable to significantly accelerate rural electricity access².

- ***Ensure sustainable supply of traditional fuels to urban areas.*** The majority of the population of Mozambique -- both urban and rural -- depend on traditional fuels (fuelwood and charcoal) for their daily cooking needs. The growing demand for charcoal and fuelwood in the principal cities (Maputo, Beira, Nampula and Quelimane) has led to a significant depletion of the forest stocks around those cities³. A large part of the Mozambican urban households and other users will continue to rely on biofuels for the foreseeable future, and sustainable resource exploitation is critical to prevention of further environmental degradation and to improving the quality of life in rural areas, where biofuel supplies to the urban areas are a significant source of income and employment.

In recent years, the GoM, with the help of the Bank and other donors, has taken some significant steps to set the stage for expanding electricity access and encouraging sustainable biofuel exploitation. It modified the electricity law (1997) and regulations (drafted; yet to be approved) to permit private sector ownership in all stages of electricity business, and intends to move away from the role of an investor to that of business facilitator. In addition, its draft energy strategy calls for a program of pilot projects via public-private partnerships, and establishment of solar and wind technology demonstration centers.

In July, 1999, the GoM, the Bank, and the key bilateral donors reached agreement on the broad scope of a Rural Energy Project, which is the subject of this PDF request.

1.2 Solar Electricity

The Solar Electricity industry in Mozambique is in an early stage of development; sales volumes are small and subject to fragmented demands of other donor-financed projects. Expansion of the industry is limited by lack of information, and high infrastructure and product introduction/service costs. About 550 PV systems are now sold annually.

Affordability for PV systems does exist, as evidenced by the reliance on higher-cost, inconvenient alternatives such as car batteries, especially in recent years of economic stability and prosperity. Industry estimates suggest that about 25,000 to 30,000 car batteries are sold annually for home electrification use, and that the market keeps growing because

¹ Some of the provincial and district capitals are served by isolated grids of Electricidade de Mozambique (EdM) as well as non-EdM suppliers.

² At present, population growth gives rise to about 30,000-40,000 new rural households per year, while EdM adds 7,000-8,000 new connections per year – urban and rural, residential and non-residential.

³ The fuelwood consumption of rural households has a relatively low negative impact on the forest stocks, given their low population density, and traditional practices of collecting fuelwood without resort to felling live trees.

many people have no other means of electric lighting. Based on this, it is estimated that there is a short term market of 20,000 solar systems. Recognizing, further, that a large portion of Mozambican population lives in areas that will be difficult to serve via main grid electrification, the technical potential for solar PV systems is over two million households over the next 10 to 20 years.

To gather Mozambican perspectives on the potentials for solar electricity markets and the barriers to realizing the potential, a workshop was conducted in Maputo, 24 September 1999 with rural development NGOs, private firms, government agencies, universities, and foreign donors. Barriers identified during this workshop included (i) lack of market (supply chain) information and technological knowhow; (ii) low level of private sector capacity for business organization and planning, and for training for service and maintenance; (iii) low awareness among the potential buyers; (iv) extremely limited or non-existent firm or household access to finance; (v) uneven product quality; (vi) an unclear policy/regulatory environment; and, (vii) unrealistic expectations of access to the main grid, combined with a lack of familiarity with alternative approaches, such as private sector-led electrification via isolated mini-grids or solar PV systems.

2. Proposed Rural Energy Project

2.1 Overall Project Objectives:

The proposed project's development/global objectives are for the Bank and other donors to work together with the Government of Mozambique to:

- Lay the foundations for realizing the contribution that domestic electricity access expansion can make towards rural transformation. This will entail (i) technical assistance and capacity building and (ii) investments in low-cost main grid extension to rural areas, setting up isolated mini-grids where main grid extension is uneconomical or not feasible in a timely manner, and solar photovoltaic lighting systems for institutional and household needs in remote rural area;
- Promote environmentally sustainable development by establishing community-based forest resource management systems that yield a sustainable supply of traditional fuels to major urban areas as well as significant rural benefits.
- Initiate the process of eliminating the barriers that impede the development of renewable energy in Mozambique.

In addition, as the only new Bank operation in the energy sector, the proposed project will also serve as the primary vehicle to support broader technical assistance and capacity building needs to help develop and implement the Government's strategy on power and traditional energy sectors.

These objectives are linked to the 1998-2000 Country Assistance Strategy (CAS, Report 17180 MOZ, November, 1997) strategic priorities of (i) promoting rapid, broad-based growth, centered on rural development, (ii) capacity building and developing human resources, and (iii) strengthening development partnerships. A new CAS, currently being drafted, is expected to reflect the sectoral challenges and priorities the proposed project is targeted at.

The global objective, consistent with GEF Operational Program 6 in Climate Change, is to achieve GHG reductions through the alleviation of policy, information, and financing barriers that currently hinder renewable energy technology dissemination and market development in Mozambique. In support of this objective, the project will engage the private sector in commercially sustainable activities that reduce long-term implementation costs and offer strong potential for learning and replication.

The proposed project would consist of a technical assistance component and an investment component.

Technical assistance component

This component will focus on policy and capacity building⁴. This would: (i) facilitate the Government's efforts to put in place the enabling framework as well as capacity for a competitive and sustained expansion of electricity access, (ii) strengthen the Government's capacity required to promote efficient development of the power sector, and (iii) build the domestic private sector's capacity to implement power sector projects, including off-grid and solar photovoltaic (PV) projects.

The technical assistance would be targeted at policy and regulatory development – including the design and implementation, during the course of the project, of the principles embodied in the “minimum policy platform” agreed to between the GoM and the donors. In brief, the “minimum policy platform” consists of (i) establishing a level playing field for private sector participants; (ii) establishing suitable regulatory framework with clear separation of responsibilities and permitting “light”, decentralized regulation for small systems; (iii) permitting full cost recovery and cost-based tariffs, appropriately unbundled (between generation, transmission, and distribution) and with regional differentiation; and, (iv) establishing a subsidy transfer and financing mechanism that follows pre-established clear, explicit rules and ensures good governance.

⁴ In addition, the Bank will continue its policy dialog with the Government on power sector reform, and may provide, as requested by the Government, advisory services in reviewing the reports, draft legislation/regulation, etc. related to export-oriented energy sector projects.

Investment component

The investment component would have four parts:

- **Main grid investments**, geared at (i) introducing, with the aim of mainstreaming, proven lower-cost distribution network designs, standards, and construction/management procedures, in order to substantially reduce the cost per new customer connection; (ii) proving the effectiveness under Mozambican conditions of other options for further cost reductions with a view to mainstreaming them at a later stage; and (iii) demonstrating a model of private sector distribution concession with bulk supply from EdM.
- **Isolated grid investments**, with private equity and debt, for relatively concentrated areas with a potential for income-generating uses of electricity. This component would build on the lessons learned in the Urban Household Energy Project, utilize lower-cost options, and develop model concession contracts for isolated grids.
- **Institutional/household solar PV systems**, which will (i) develop a systematic program for meeting efficiently all the modern energy needs of rural institutional consumers, such as health clinics and schools, and initiate the process by providing light, cooling for vaccines and electricity for other appliances via solar PV systems. It is expected that the institutional consumers would receive significant subsidies, from multilateral and/or bilateral donors, for these systems, which would be provided by the private sector; and (ii) enhance the quality of life of rural households by the provision, on commercial terms with some subsidies, of solar PV systems that will meet provide lighting and power small appliances (e.g., radio).
- **Traditional/cooking fuels interventions**, that would promote sustainable and efficient supply of biomass fuels to the urban/peri-urban markets and also undertake efforts to manage the demand for such fuels via encouraging efficiency improvements as well as via interfuel substitution (e.g., by LPG and kerosene).

The total external financing package is expected to be about \$35 million, and will include about \$8 million in IDA funds, about \$2.5-3 million from GEF, and the remainder from bilateral and other multilateral donor co-financing. Of this amount, approximately \$8 million is earmarked for renewable energy development, including a solar PV investment component of \$4.5-5.0 million. All GEF funds will be used to support this component. For a preliminary budget breakdown of the solar electricity component see annex 1.

2.2 Solar Component Strategic Approach and Description

The strategic approach of the Solar Component is to initiate a small effort, exploiting the “workable entry points” identified at this time, and plan to lay a strong foundation for renewable energy development, with the vision of a larger-scale mainstream renewable

energy project in the next few years, possibly in the context of a wider regional initiative in Southern Africa. Specific activities in this component are described below⁵, separated in (A) investment activities, and (B) non-investment activities⁶.

Solar electricity investment activities will support PV system sales in the two niche markets: individual household systems, and larger-scale institutional systems. It is expected that significant cost and price reductions for such systems can be achieved via competitive bidding, better awareness of technologies (e.g., smaller systems with greater reliability and better performance), more efficient international supply chains, and market expansion in a competitive manner, catalyzed by use of “smart” subsidies.⁷

- **Individual household system** investment sales will be by local private businesses⁸, who will be supported via financing through existing commercial banks and by establishing a re-financing facility. These support and financial intermediation activities will exploit other on-going private sector (especially, small and medium enterprise or SME) development projects (e.g., the Bank-financed PODE project) and their implementing agencies (e.g. the Investment Promotion Center, CPI). It is expected that the market for these systems will grow from the current 550 systems a year to about 2500 in the last year of the project.
- **Larger scale institutional system** investments will be a joint effort between the World Bank, bilateral donors and the involved ministries (principally health and education, but possibly in water supply as well). Denmark and Norway are preparing project interventions in the rural health and education sectors, which are to include provision of electricity via solar PV systems in schools and clinics. It is estimated that the market for these systems will grow from the current 27 health centers per year to several hundreds health centers and schools at the end of the project. These systems will also be sold, installed, and serviced by the local private businesses.

Solar electricity non-investment activities will focus on

- **Capacity Building** activity will focus on three main target groups: (i) the local renewable energy businesses, (ii) rural development organizations, commercial banks and government officials from energy as well as non energy sector ministries, and (iii) cross-sectoral working groups.

⁵ All the activities will plan to have annual consultations with the beneficiaries for design and implementation approach. The indicated focus areas here reflect the priorities identified thus far, and may have to be changed – within the overall objective of the solar electricity component – during the course of the project.

⁶ The design of the solar electricity component is heavily based on the object oriented workshop organized in Maputo September 24th, 1999. Thirteen organizations were represented and have expressed their opinions about the barriers for solar electricity development and their suggestions for expanding the solar electricity sector. The methodology used assured that all representatives had an equal input in the workshop.

⁷ A larger and growing market also helps reduce the costs of training for service and maintenance.

⁸ A novel distribution chain identified in Mozambique is a private firm that sells a wide variety of consumer goods to Mozambican miners in South Africa, who pay in Rands in South Africa and select the goods (ranging from foodstuff to consumer durables including solar PV panels) to be supplied to their families back home.

Local renewable energy businesses will receive support to prepare better business plans and implement them. Initially, SME development experts with the assistance of a PV market expert will develop criteria for a high quality business plan in the Mozambican context. Individual businesses will then be provided guidance and, as necessary, training, to prepare and execute such business plans. The activity will support businesses to build their capacity to improve products to meet the price/quality range expected by rural households and the health and education ministries. It will also support the businesses to improve and expand their current installation and after-sales services. These activities will be undertaken in collaboration with the CPI and may be achieved through established twinning relations with high quality foreign businesses (e.g., promising south-south trade relationships).

Additionally, internationally available renewable energy training programs will be tailored to the Mozambican situation. It will contain teaching modules and extension materials that will strengthen the capacity of distributors as well as financiers and customers to make informed and reliable choices, and to own and operate the solar PV systems. Simple technology descriptions, data collection tools, and screening tools will be provided, as well as information on how to obtain the equipment. Particular attention will be given to a training module on the cross sectoral renewable energy options in the health and education sector, and build on lessons learned by the WHO⁹, NREL and other international organizations that have worked with and tested the different options in other developing countries. The training material will also contain a module for government officials from energy and non energy sectors on renewable energy policy aspects, international agreements, and renewable energy program management. The material will be based on participatory training methodology. The activity will train local training institutions after which they will receive small financial support to train the different target groups in the rural and urban areas. The activities will be undertaken in collaboration with UEM, regional renewable energy institutes and the SADC¹⁰.

To implement the institutional systems will require cross sectoral collaboration between the different ministries, accompanied experts and businesses. To facilitate this process one or two (health and/or education) working groups will be established. A professional facilitator will support the groups during the process of collaboration. In addition, technical support will be made available to support the groups on specific issues. The group(s) will support the government officers in establishing functional specifications, technology assessment tools, operation and maintenance schedules, fee collection mechanisms, definition of responsibilities, procurement guidelines etc.¹¹.

⁹ The WHO recently finalized a four-year research project to determine an integrated approach of solar energy for primary health care.

¹⁰ Training material from ESAMI (Tanzania), EDRC (South Africa), TAU (SADC), ITC (Zimbabwe), NREL and others will be used.

¹¹ A member of the WHO study will be consulted or become part of the technical support group.

- **Technical Assistance** activity will support the preparation of program design for up-scaling of (i) the cross-sectoral energy/education/health initiatives started during the project, and (ii) expanding the solar electricity initiative to a broader, more technology neutral, renewable energy sector development.

Together with local and international support the necessary background information will be collected, institutional arrangements and responsibilities discussed, pipelines for investments identified, energy need assessment models defined, suggestions for policy enhancements and a program for follow up activities described. The design of the subsidy release criteria, organizational responsibilities in relation to the subsidies and other related issues will be part of the activity but will receive separate attention. The outcome of the activity will be two detailed designs for upgrading the energy cross sectoral activities and the renewable energy sector activities, the necessary consensus among the main stakeholders and well documented background information.

- **Market Development**¹². activity will support the businesses in their market research, controlled test marketing¹³, and outreach. The focus of the market research and the controlled test marketing is towards the more affordable smaller solar systems for households and optimal design for the larger scale institutional systems. The market research will clarify the profile of the potential buyers therewith establishing stronger focussed marketing strategies, product design and pricing policies. This activity will be developed and undertaken in close collaboration with the existing companies, and build on the experiences of some of the larger commercial companies (e.g., beverage makers) who use similar market development process. In the later stage of the project, specific marketing tactics like road shows, district demonstration centers and national awareness campaigns might be considered. To make sure that these activities are undertaken as part of the individual business strategies the activity will be designed on a cost-shared basis.

3. Justification of the PDF Grant

Country Eligibility. Mozambique ratified the UNFCCC on 8/25/95.

Relevant GEF Operational Program. The proposed project is consistent with GEF Operational Program 6 on Climate Change – promoting the adoption of renewable energy by removing barriers and reducing implementation costs. It provides Mozambique a long-term programmatic approach to strategically develop its renewable energy resources on a

¹² The solar electricity industry is in its infant stage of development as indicated by its much higher product prices in comparison to the world market prices, limited number of companies, low sales growth rate and no profits due to high infrastructure and product introduction cost. Experience has learned that marketing and market development are pivot activities during this infant stage. For this reason it was chosen to have a separate market development activity as part of the solar electricity component.

¹³ Controlled test marketing is a defined activity in the marketing area, it can provide test results that reliably simulate real-market conditions and buyers. These methods can reduce risk and test-market costs as well as save time.

sustainable basis, and promote these resources as a key supporting element of its rural development and electrification strategy. In terms of removing barriers to renewable energy technologies and market development, the project is well positioned to also serve as a planning and implementation model for several neighboring countries.

Rational for PDF Support. The PDF is required to further identify and characterize renewable energy barriers in Mozambique and a clear baseline of the current status and prospects for each applicable renewable energy technology. Simultaneously, PDF activities will help put in place in a timely and coordinated manner the necessary elements of an institutional framework and long-term programmatic approach to remove these barriers and establish a sustainable approach to expanding technologies and markets. The intent is to remove barriers to commercial transactions and reduce additional implementation costs that result from lack of practical experience, initial low volume markets, or the dispersed nature of applications.

Execution. The GoM, through the Mozambique Coordinator of Environmental Affairs (GEF Focal Point) and the Directorate Nacional de Energia (DNE), has requested that the World Bank to partially execute the PDF activities. Due to the limited experience and capacity of DNE in rural electrification and solar market development in particular, the GoM believes that project resources and preparation findings would be more effectively performed as part of the overall IDA project preparation activity, and that with the capacity available about 20% of the funds could be effectively implemented by the GEF Focal Point and DNE. The remainder to be executed by the World Bank.

Description of Proposed PDF Activities and Outputs. PDF funds are requested for co-financing the development of the following enabling activities and project design products:

1. **Pipeline Development for Solar Electricity Investments.** The consultants will work together with line ministries, solar electricity companies, and donors, to establish a limited but high quality investment pipeline and propose project set up for the larger scale institutional systems, and the individual household systems.. The consultants – in particular for the cross sectoral institutional solar projects - will undertake an institutional analysis identifying the roles of the different players, their linkages, relationships, dependability and option for collaboration. They will recommend a suitable organizational set up and propose two workgroups (health, education) for these cross sectoral projects. In addition, they will identify the exact scope and conditions for the IDA re-financing facility and which commercial banks are suitable for these solar lending operations.
2. **Design of Solar Electricity Capacity Building Activity.** The assignment will focus on renewable energy capacity building activities for three main target groups: (i) the local renewable energy businesses, (ii) rural development organizations, commercial banks and government officials from energy as well as non energy sector ministries, and (iii) cross sectoral working groups. The

output of the assignment is detailed and agreed upon terms of references for capacity building for business development, for training material and training, and for cross sectoral working groups.

3. **Design of Solar Electricity Market Development Activity.** The consultant will design in close collaboration with the rural development organizations, dealers and distributors the framework for market research, controlled test marketing and promotional activities. They will identify which approaches will be taken to profile the potential buyers of the systems, how to set up controlled test marketing (in association with experienced large businesses) and when and how promotional campaigns should take place (together with rural development organizations).
4. **Data collection, testing and key background studies.** This assignment can be divided into three main areas of attention:

Study on customer and business protection mechanisms. The consultants will review available mechanisms to protect the customer against inferior products. These mechanisms are adopted by the solar electricity sector world wide or are successfully in use in comparable business sectors. The consultant will at least consider the following approaches: (i) protection through a legally binding guarantees between the customer and the dealer; (ii) functional specifications required by the project, (iii) technical specifications required by the project, and (iv) industry designed quality mark. The consultant will also assess the market development mechanisms by protecting the industry for a limited period of time to establish scale of production, distribution channels, train technical staff, set up network, create customer awareness and relationships.

Inventory study on US\$100 solar systems. The consultants will collect product information on small, inexpensive (\$50-175 unit retail price) solar electricity systems that provide electricity for home lighting and a small radio. They will collect the product information, technical specifications, prices and accompanied guarantees. Based on this information, they would select about ten of the most promising products and have them tested in a certified lab. The results will be published in an easy- to-read booklet showing the features and factual information of each product. It will be available in both English and Portuguese.

Data collection and analyzing of information on renewable energy. The assignment will include the development of clear and easy to maintain templates and standard reports. The templates base will include information on active organizations, prices of commodities, ongoing projects, projects under preparation, sales of household car batteries, duty and taxes, system and component cost, number and sort of systems installed. The assignment will build on already available literature.

Monitoring and Evaluation. It is expected that all of the assignments can be implemented within six months. The terms of reference for consultants will identify clear deliverables and link payments to progress milestones. International consultants will be required to discuss ToR and mission team composition before leaving for mission and debrief progress after return.

National Level Support. The GoM and IDA have recently reached agreement on a common vision of commercially based expansion of electricity access, and on the corresponding “minimum policy platform” consisting of following principles: (a) level playing field for private sector participation; (b) enabling regulatory framework; (c) cost recovery and cost-based tariffs; and, (d) a transparent, rationalized subsidy transfer and financing mechanism. The GoM recognizes that this policy platform will facilitate the continued support of bilateral donors for rural energy activities, and is broadly supportive of a strategy to invite commercial private sector participation in key grid and off-grid rural service segments. In the statutory charters for both DNE and FUNAE (the National Energy Fund), it is clearly indicated that renewable energy options are to be a significant part of the energy mix. DNE does have a renewable energy expert.

Summary of Project Preparation Budget and Outputs. As described earlier, outputs will include an established baseline for various solar energy technologies, market barriers that hinder development, and a more definitive description of programmatic project responses to specific market barriers. Other outputs will include resolution of initial technical issues (including some limited resource assessment), preparation of key enabling components of new policy elements, and initial assistance to build private sector abilities and interest (pipeline filling) to ensure a smooth launch for the project. Further details on the country framework for renewable energy development in the medium and longer term are now being addressed by GoM with Bank assistance and will be provided at the PCD stage. Final output will be a PCD for submission to GEF Council and Bank management review.

In line with the four, above-mentioned PDF activities, the following outputs are identified:

- 1a. Investment pipeline for larger scale institutional systems and individual household systems. This will include involved (donor) organizations.
- 1b. Study report with institutional analysis, proposed composition of two cross sectoral working groups including terms of references, and scope, conditions and suggested banks for re-finance facility
2. Report with recommendation on design of solar electricity capacity building component. It will include detailed and agreed upon terms-of-reference for capacity building for business development, for training material and training programs, and for cross sectoral activities and working groups.
3. Report with recommendation on design of solar electricity market development activity. It will include the framework for market research, controlled test marketing and promotional activities.

4. Study report indicating the recommended customer and business protection mechanisms, inventory and ranking of the best small solar systems, and a small renewable energy database.

Costs. Project preparation costs of \$275,000 as described below are sought to be met with the use of proposed grant. Additional preparation funds are expected to be available from the bilateral donors (mainly Danida, NORAD, and SIDA), who are also expected to co-finance the project.

Project Preparation Requirements	US\$ 000's
1. Pipeline Development for Solar Electricity Investments	75
2. Design of Solar Electricity Capacity Building Activity	70
3. Design of Solar Electricity Market Development Activity	50
4. Data collection, testing, and key background studies	80
Total	275

Timing. March, 2000 to August, 2000

Other Donor Involvement. There is considerable bilateral donor involvement (Danida, Norad, NDF, SIDA) in power sector investments as well as capacity building. The Dutch have expressed interest in supporting renewable energy activities. The GoM has requested Bank assistance for donor coordination in the energy sector. Bilateral donors have thus far had limited focus on renewable energy in their energy sector programs for Mozambique, but all of them have indicated a strong desire to shift away from the conventional grid-investment support activities to decentralized, renewable energy promotion activities that have a more direct impact on sustainable, equitable growth and poverty alleviation. The Bank, with GEF support, therefore has a significant opportunity – and responsibility – to take the leadership and assist the aid partners.

ANNEX 1
Preliminary Budget Breakdown of the Solar Electricity Component

	No. of systems	Total Project Cost	Total GEF Contrib.	Total Donor Contrib.	Total GoM	Total End User
Investments						
Individual household systems	5,000	1,500,000	375,000	300,000	75,000	750,000
Larger scale institutional systems	300	3,000,000	750,000	1,687,500	450,000	112,500
Sub Total Investments		4,500,000	1,125,000	1,987,500	525,000	862,500
Non Investments						
Capacity Building						
Business Development		500,000	250,000	150,000		100,000
Training facility		500,000	250,000	150,000	100,000	
Cross Sectoral Collaboration		400,000	120,000	120,000	160,000	
Sub Total Capacity Building		1,400,000	620,000	420,000	260,000	100,000
Technical Assistance						
Upscaling cross-sectoral initiatives		350,000	175,000	105,000	70,000	
Renewable energy sector development		750,000	375,000	225,000	150,000	
Sub Total Technical Assistance		1,100,000	550,000	330,000	220,000	-
Marketing Development						
Market research, including controlled marketing		700,000	315,000	210,000		175,000
Outreach		400,000	180,000	120,000	60,000	40,000
Sub Total Marketing Development		1,100,000	495,000	330,000	60,000	215,000
Sub Total Non Investments		3,600,000	1,665,000	1,080,000	540,000	315,000
Total Project Cost		8,100,000	2,790,000	3,067,500	1,065,000	1,177,500