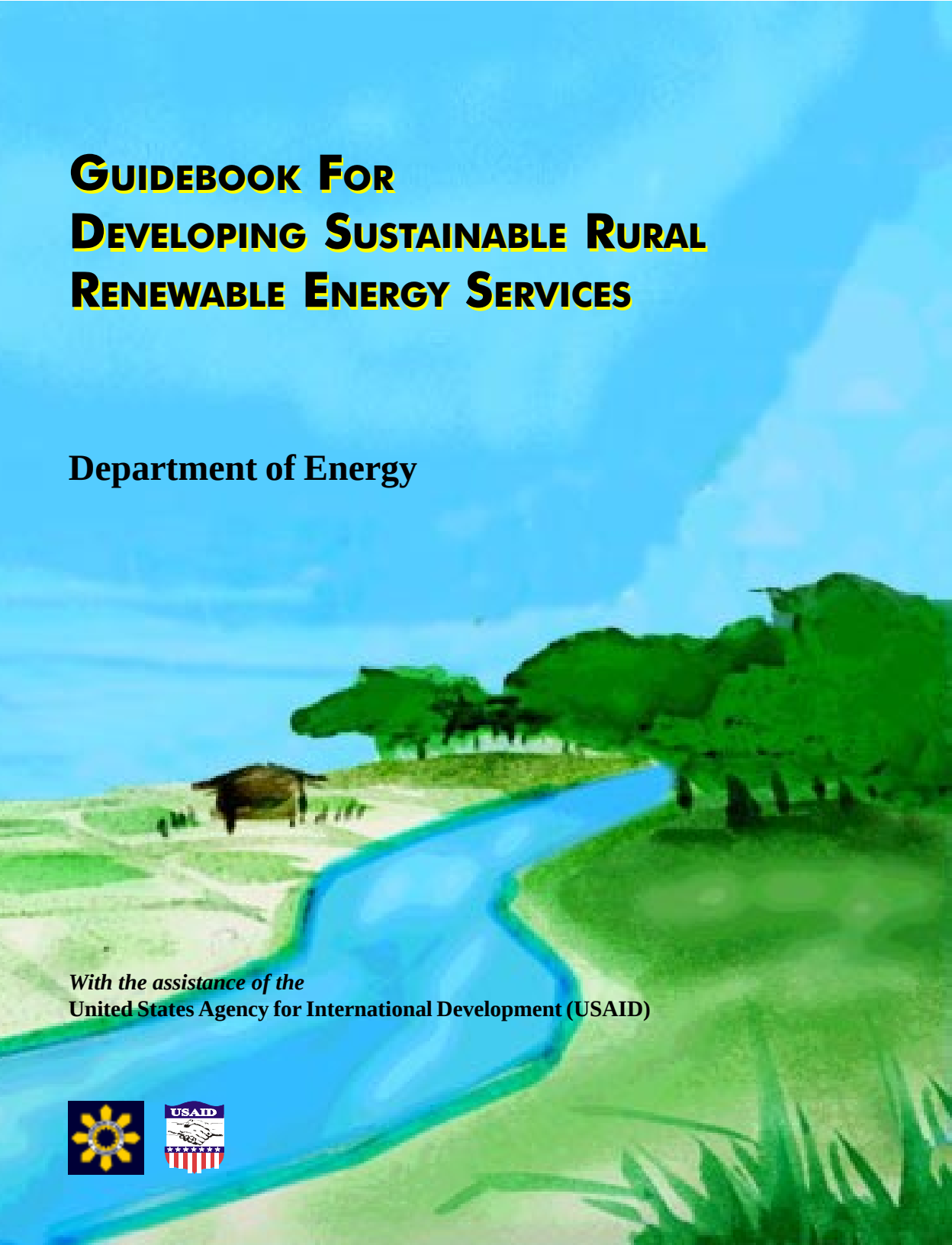
GUIDEBOOK FOR DEVELOPING SUSTAINABLE RURAL RENEWABLE ENERGY SERVICES

Department of Energy



With the assistance of the
United States Agency for International Development (USAID)

The development and reproduction of this guidebook was made possible through funding provided by the Philippines Climate Change Mitigation Program (PCCMP), a joint USAID and DOE program being implemented by PA Consulting Group.

FOREWORD

In a country where almost 8,000 barangays are still without electricity, the task of providing access to reliable and affordable energy supply is daunting. Where do we begin? How can we accomplish this difficult task amid the socio-economic problems facing the Philippines?

This guidebook responds to the urgent need for a road map that will accelerate rural electrification. The route by which this will be done is by developing sustainable and renewable energy-based enterprises in rural areas.

The key is to move beyond the traditional, to explore new ways of doing things, to revisit community-led initiatives. People cannot be mere recipients of services. They are, and should be, partners in pursuing their economic development. Meaningful poverty alleviation efforts should be anchored in effective governance, where development efforts are owned by the people.

The use of Renewable Energy (RE) in rural electrification is based on these principles. It also recognizes that the country's geography requires new approaches to electrification: there are far-flung areas — separated from key urban and industrial areas (where power distribution lines originate) by mountain ranges, rivers and seas — that cannot be easily reached. The RE approach is based on the development of off-grid energy services which are independent of the usual distribution networks.

The more important aspect of utilizing renewable energy sources is that it enables creation of much-needed energy with indigenous resources. Fortunately the Philippines is endowed with abundant wind, solar, hydro, biomass, and ocean energy resources.

The use of renewable energy is an investment for the future because it deepens our commitment to care for our environment. It encourages community-based efforts that are sustainable and earth-friendly. This approach builds people-centered economic activities and also promotes opportunities for entrepreneurship.

This guidebook provides constructive guidance on how to assess renewable energy resources, promote meaningful community participation, prepare viable business plans and obtain financing. The tools and approaches can be instrumental in helping electrify the remaining 8,000 barangays and establishing livelihood enterprises to alleviate poverty – providing a brighter future for all.

Jose Isidro N. Camacho
Secretary
Department of Energy

Patricia K. Buckles
Mission Director
United States Agency for
International Development - Manila

CONTENTS

ANNEXES

TIPS IN "WALKING THROUGH" THIS GUIDEBOOK

We have tried to make this guidebook easy for you to follow. The 6-step business plan development process suggested in this guidebook is explained in simple terms, using illustrations to make it more interesting. To help you "walk through" the guidebook, here are some tips:

- Those portions marked with and are usually boxed are important reminders or advise. You can skip them in your first reading, but remember to go back to them later.

- There are instances when we cannot avoid using technical terms. Those enclosed in *quotation marks* are such terms . Descriptions are provided to clarify them. They are marked with .

- The items are numbered so that you would not get lost along the way. For instance, if an item is numbered as **3.1**, that means you are already in "**Step 3: Developing Your Business Plan**." We also made sure that each page will tell you where you are exactly in the process. Just refer to the banner at the outer margins of your page. You can also go back to the process illustration (Figure 1) on page 9.

- Other important terms and ideas are either underlined, italicized, or printed in bold fonts. You need to take note of or remember them as you go along the way.

We hope you will find this a helpful way to start your RE business enterprise. Enjoy reading!

- The Editorial and Research Team-

ACRONYMS

ANEC	Affiliated Non-Conventional Energy Center
CBO	Community-Based Organization
CCIC	Climate Change Information Center
CCPSP	Coordinating Council for Private Sector Participation
DBP	Development Bank of the Philippines
DILG	Department of Interior and Local Government
DOE	Department of Energy
DOF	Department of Finance
EC	Electric Cooperative
EIAB	Energy Industry Administration Bureau
EUMB	Energy Utilization Management Bureau
IOU	Investor-Owned Utility
IPP	Independent Power Producer
KwH	Kilowatt Hour
LBP	Land Bank of the Philippines
LGU	Local Government Unit
LGUGC	LGU Guarantee Corporation
NEA	National Electrification Administration
NEDA	National Economic and Development Authority
NGO	Non-Government Organization
NPC	National Power Corporation
NREL	New and Renewable Energy Laboratory
ODA	Official Development Assistance
RE	Renewable Energy
RESCO	Renewable Energy Service Company
RRES	Rural Renewable Energy Service
USAID	United States Agency for International Development

I. BACKGROUND

In Barangay Diarabasin, Dipaculao, Aurora, there is still no electricity. The barrio folks still use gasera (a homemade lighting fixture using a wick that is soaked in kerosene) while the more "affluent" ones use Coleman (a cylindrical glass-enclosed light that uses a pumping mechanism in order to maintain the glow) for their lighting needs.

Most of the residents rely on farming and fishing. But because there is no electricity, there are no storage or processing facilities for agricultural and marine produce. Poor infrastructure worsens the situation. We hear horror stories of bananas being thrown away because the trucks transporting them got stuck somewhere due to unpassable roads during heavy rains or typhoons.

If there is electricity in the area, facilities can be built so that produce can be stored or be eventually processed.

Having electricity is a dream for most, if not all, of the barrio folks. Their local government lacks the resources to do something about it. They also don't know where to begin.

In a country where there are still many areas with no electricity, we begin to ask whether solutions are possible when even basic services like health care, housing, social protection and education can barely be met. In the case of Diarabasin, it may be an impossible task.

Energy is a basic and priority need. Economic activities are greatly dependent on electricity.

However, the reality of Diarabasin is true in almost 8,000 barangays all over the country. Providing electricity to majority of these barangays through grid connection will be very expensive and even if we can afford it, it will still take a considerable amount of time. A solution based solely on utilization of fossil-fuel technology may not only be unsustainable but could also exact a high toll on the environment.

How then can we address this crucial need? The answer lies in the development of off-grid (i.e., independent or outside of the existing distribution network) energy installations through the use of Renewable Energy Sources and Technologies.

The prospects are good. For instance, Diarabasin has possibilities for sites for micro-hydro plants. Even the winds there that blow hard during most parts of the year can be possible sources of energy.

Most parts of the country, like Diarabasin, have the needed resources. All we need to do is tap them by encouraging local enterprises that will build, operate and maintain energy infrastructures.

Why is renewable energy ideal for off-grid rural electrification?

- **Because we have the resources and technology!**

  Fortunately for our country, we are endowed with wind, solar, hydro, biomass, and ocean energy resources.

Wind:	Potential power capacity of over 70,000 MW
Hydro:	Power potential of 3,600 MW mini and micro-hydro resources
Solar:	Using solar cell panels, we can generate 160 watts per square meter
Biomass:	The use of biomass resources will save us over 80 million barrels of fuel oil equivalent in the next 4 years
Ocean:	Ocean energy sources (thermal, wave, current, and tidal) have been found to have enormous potential

  These resources are virtually limitless if tapped and managed appropriately. Since they are indigenous, we also cut down on importation and transportation costs. Moreover the technology to tap these resources are also already accessible in various practical forms.

- **Because it has been done and more can be done!**

  Nationwide, there are already about 43,300 renewable energy installations, which are being used for various applications including household lighting, heating, cooking, and water pumping. Many of these installations use biomass and solar technology.

  Your local communities can build renewable energy enterprises that follow these examples. These enterprises will not only be developing local community-based energy sources but will also be encouraging local entrepreneurship. Your best strategy to attain this is to develop a solid business enterprise plan and mobilize strong community support.

- **Because we care for the environment!**

  RE is environment- and climate friendly -- it has zero or low carbon dioxide emissions. By protecting the environment, we also practice “good business” because we open the door to more opportunities. For instance, the government provides incentives to clean-energy investments and various funding sources now require the use of environmentally sound technologies in their programs.

II. OBJECTIVE OF THE GUIDEBOOK

The purpose of this Guidebook is to provide potential proponents with a practical road map that will assist them in developing, financing, and implementing a **rural renewable energy service (RRES)** business enterprise. This road map consists of the following: (a) a checklist of activities and items to be considered for a business plan; and (b) a directory of resource persons and organizations you can contact for assistance.

Proponents

Guidebook

Goal: Develop, finance, and implement a sustainable and economically viable RRES business enterprise.

RRES Business Enterprises

Challenged by the urgent need to energize all of the country's barangays by year 2004, the Department of Energy (DOE), with assistance from the United States Agency for International Development (USAID), offers this guidebook to encourage and assist communities in implementing their own rural electrification programs based on the use of renewable energy.

III. ESTABLISHING YOUR RRES BUSINESS ENTERPRISE: AN OVERVIEW

Before you begin, we need to view the larger picture. Establishing your RRES business enterprise will not happen in an instant. There are various steps and activities that you must ideally go through to make things happen.

There are two important phases in establishing your RRES business enterprise.

Phase 1 *- the* ***PRE-INVESTMENT PHASE.*** Here you will design, package, and close the financing deal for your business enterprise (**see Steps 1 to 4)**.

Phase 2 - *the* ***INVESTMENT and OPERATIONAL PHASE****.* Here you will implement your business plan, monitor its progress, and evaluate your performance (**see Steps 5 to 6)**.

Figure 1 below summarizes a typical business development process and the approximate duration for each step.

Figure 1 - Typical Business Development Process

Reminders:

- *You don't have to start from ground zero if you are already sure about your business concept. The steps in business development are ideally sequential but you can adjust according to your needs or conditions.*
- *Your target beneficiaries must be adequately consulted every step of the way because their support and commitment will ensure sustainability. Your business enterprise needs to harmonize with local development efforts and the community culture.*
- *The suggested steps in Figure 1 can also be used if you are planning an expansion or re-investment in an already existing enterprise. You may need to retrace your steps to the pre-investment phase to make sure that the new business plan is still relevant to emerging needs and technical developments in the field.*

IV. THE STEPS IN ESTABLISHING YOUR RRES BUSINESS ENTERPRISE

Now you are ready to begin.

Step 1: Assessing your target site and its needs

☑ The first step is to choose your target site, define what its needs are and know if it has all the necessary resources and the capacity to sustain your RE business.

Reminders :

- ***Your target sites/area*** *may be a municipality, barangay, sitio or groups of these units. Ideally, your site must be unenergized and preferably verified with DOE for its status.*
- ***In planning what energy services to provide, aim for more than simple household lighting****. Go beyond the traditional approach of merely installing energy facilities and equipment. Consider all economic end-uses of energy.*
- ***Remember****, the community needs to have the capacity to pay so income-generating activities must also be planned for and coordinated with potential investors.*

Once you have chosen your target site, the following assessment activities must be done:

1.1 Needs and Market Assessment

This will determine the target site's existing and prospective needs for various *"energy services,"* define the existing supply conditions, and solicit consumer *"willingness and capacity to pay"* for energy services.

1.2 Resource Assessment

This will pinpoint the types of RE sources that are available in your target site including their location, amounts, and other geophysical characteristics. It will also identify and quantify the local raw material resources that may be used for livelihood development.

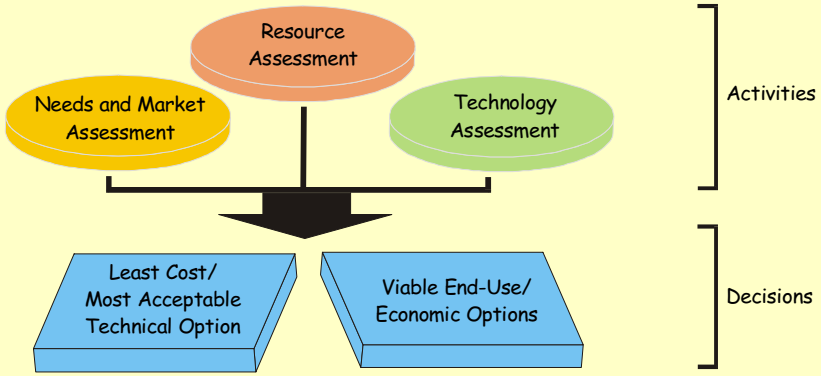
1.3 Technology Assessment

This will identify the various technology options that are consistent with the existing RE sources and potential economic end-uses of energy in your target site and evaluate the comparative costs and benefits of each option.

Annex 2 provides more description of these assessments.

Figure 2 below shows that the above three basic assessments will allow you to determine the "least cost/most acceptable technical option" and the "viable economic end-uses of energy" for your target site.

Figure 2 - Three Basic Activities in Site Assessment



Definition of Terms:

Energy Service - includes, among others, household lighting and water pumping; commercial irrigation, drying, milling, or storage of agricultural and fishery products; and public/village street lighting, telecommunications, and health center refrigeration for vaccines/medicines.

Least Cost or Most Acceptable Technical Option - is either the most appropriate technology for supplying energy, given the market conditions and resource availability in the target area or the most acceptable option to your target beneficiaries, as indicated by their willingness and ability to pay.

Viable Economic End-Uses of Energy - are economic activities in the target site that will potentially utilize the electricity from your energy service facility. These may include household applications, livelihood or income generating activities, and public service uses. These are your hints in designing specific energy services that will be sold to various types of energy users - households, businesses, and LGUs.

Willingness and Capacity to Pay - indicates how much the energy users will most likely pay for energy services as shown by their expenditure levels on various fuel sources and their existing income.

Reminder:

You can get the following baseline information for Step 1 from the DOE, NEA, and the US-DOE's NREL:

- ***Status of barangay energization*** – a list of the country's unenergized barangays and their electrification coverage within the areas of the ECs and IOUs.
- ***Barangay profiles*** – comprehensive survey profiles and market data for selected unenergized barangays . If your identified barangay is not in the DOE database and you would like to conduct your own survey for your target site, a sample survey form can be downloaded from the website of the DOE at http://www.doe.gov.ph.
- ***RE Resource Atlas*** - maps and assessment reports of wind, solar, hydro, and biomass resources in the country.
- ***RE Technology*** - descriptions of the various RE technology/systems, which can be obtained from the website of the US-DOE National Renewable Energy Laboratoy (NREL): http://www.nrel.gov

☑ *What are your other options for obtaining baseline information for Step 1?*

You can also contact any of the following sources for other types of baseline information that you can use for Step 1:

➔ **LGU:** Information on energization, barangay socio-economic characteristics, LGU development initiatives, and applicable local laws (e.g., on land use), fiscal incentives and local fund sources can be obtained from the Local Planning and Development Offices of your LGU.

➔ **DOE-ANECs:** The DOE-affiliated Non-Conventional Energy Centers (ANECs) are colleges or universities supporting the DOE in the promotion and development of RE projects at the local levels (See **Annex 3** for information on the ANEC closest to your locality).

➔ **NGOs and Consulting Groups**: NGOs and private consulting groups will provide services for conducting the three assessment activities either for free or for a fee (See **Annex 5)**

➔ **NEDA**: For socio-economic information and development plans on your target areas, contact the regional offices of the National Economic and Development Authority (See **Annex 6**).

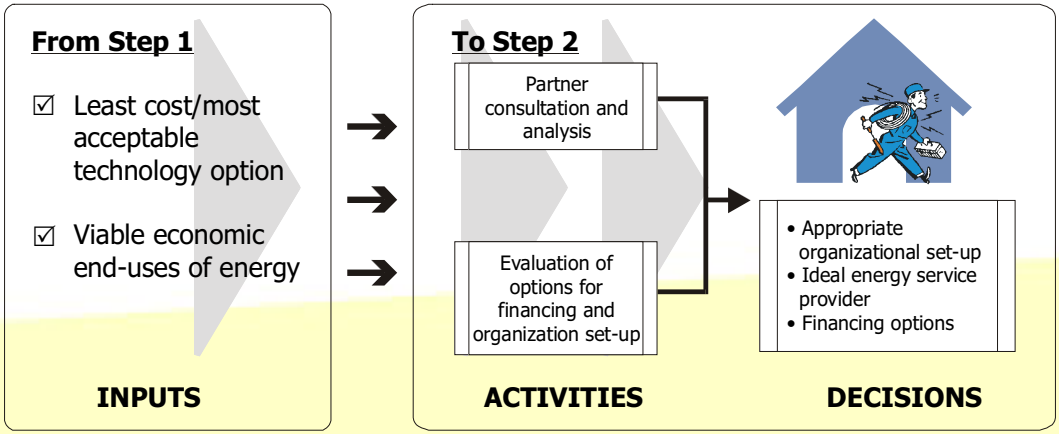
➔ **EC or IOU**: To find out if there is a proposed or ongoing electrification plan for your target site or to inform them about your business, contact your local electricity franchise holder [either an Electric Cooperative (EC) or an Investor-Owned Utility (IOU)]. (See **Annex 4** to reach your EC or IOU, through the Regional Offices of the NEA).

Step 2: Identifying your partners and defining their roles

☑ At this point, you are now going to select the appropriate "organizational" set-up for your business enterprise and identify the "energy service provider." To do this, there are two basic activities that you need to undertake:

(1) Partner consultation and analysis, and

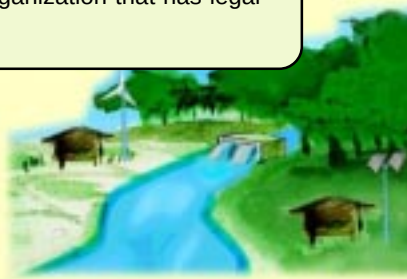
(2) Evaluation and selection of options for financing and organizational set-up.



Definition of terms:

Institutional Set-up **-**This is the structure or formal arrangement which tells you how each partner contributes to the sustainable operation of the business enterprise.

Energy Service Provider - This is the entity that supplies the energy service to your target site on either a "fee-for-service" or "pesos/KwH" basis. This may be your Local Government Unit (LGU), a Community-Based Organization (CBO), local Electric Cooperative (EC), a Non-Government Organization (NGO), an Investor-Owned Utility (IOU), a private developer or any person/organization that has legal personality to own, operate, or manage a business.



2.1 Basic Activity # 1: Partner Consultation and Analysis

You need to identify the potential players in your project, discuss with them their likely roles, organize them, and prepare them to participate proactively in your business enterprise.

2.1.1 What are your critical considerations under this activity?

Partner identification – Seek, approach, and enjoin your potential project partners. These partners may include your LGU, the beneficiary community, your electricity franchise holder, CBOs, and potential funding institutions/investors.

Collective planning – Discuss with your partners their interests, commitments, and risks in the business enterprise and incorporate these in the preparation of the business plan.

Social preparation – Organize your beneficiary community and prepare them collectively to accept the responsibilities of hosting, patronizing, owning, or managing an RE facility.

Technology education – Train your beneficiary community on the technical and economic requirements and limitations of using RE technology and how to effectively handle them.

2.1.2 Who can help you conduct this activity?

This activity is ideally accomplished with maximum participation by the community in your target site. It is best therefore that you seek the assistance of community volunteers and CBOs. In addition, you also need to approach any of the following:

- Planning and development officers of your LGUs
- NGOs and private consulting organizations (see **Annex 5**)
- ANECs (see **Annex 3**)

2.2 Basic Activity #2: Evaluation and Selection of Options for Financing sand Organizational Set-up

You are now ready to identify and evaluate the potential ways of financing your business enterprise and the corresponding organizational set-up that you need. You must aim to create community-based economic opportunities and accountability, so think of ways in which a CBO can be a significant partner in the arrangement that you will select.

2.2.1 What are examples of financing and organizational options for your business enterprise?

The table below shows some options that you can explore.

FINANCING ARRANGEMENT	ORGANIZATIONAL SET-UP
Bank loan (may be LGU guaranteed or not)	Owned and managed by CBO
Private equity investment	Privately owned -> Leased and managed by CBO
LGU funding	LGU owned -> Leased and managed by CBO
Technology supplier's loan	LGU/EC/IOU-owned -> Managed by CBO
Technology supplier's lease	Individually owned and operated; CBO manages a service-center

2.2.2 Who can help you conduct this activity?

For technical advise in identifying, designing, and evaluating the various options, the organizations listed in **Annex 5** and some government financial institutions (LBP and DBP) and the LGUGC may be contacted (See Step 3 for information).

Reminder:

Ensuring sustainability *must be your guide in choosing the best option that fits your local conditions and culture. Your enterprise is only sustainable if it generates sufficient revenues to recover costs and provide for operating expenditures.* ***The best financing and organizational option addresses the sustainability issue.***

Step 3: Preparing your business plan

☑ You are now equipped with sufficient information to prepare/write your business plan. What you need to do is put together analyses and decisions made in Steps 1 & 2 into a business plan that will be presented to your prospective financing partner/ sources for their evaluation.

From Step 1	+	From Step 2	=>	To Step 3
☑ Least cost/ most acceptable technology option ☑ Viable economic end-uses of energy **INPUTS**		☑ Appropriate Organizational Set-up ☑ Ideal Service Provider ☑ Financing Options **INPUTS**		Prepare Your Business Plan **ACTION**

3.1 What do you need to include in your business plan?

Your ideal business plan would generally include the following basic sections:

See Annex 7 for specific details under each item of the business plan.

1. *Business description*
2. *Market analysis & energy service demand*
3. *Marketing plan*
4. *Community and livelihood development plan*
5. *Technical design, equipment procurement, and construction plan for facility*
6. *Operating plan*
7. *Organizational plan*
8. *Financial analysis*

Reminder:

Cost recovery is key!

Make sure that your enterprise can generate sufficient revenues to recover your initial investment costs, service your loan obligations, cover your operating and maintenance costs, and even provide for future re-investment.

3.2 *What are the important considerations in putting together your business plan?*

➔ ***Know your potential financing sources and their terms and requirements***. Build your plan according to the prescribed conditions of your funding source.

➔ ***Know the government policies that apply to your business.*** You can get this information from the DOE or you can be referred to the appropriate oversight and regulatory bodies (e.g., Energy Regulatory Board, Board of Investments, Securities and Exchange Commission, and Environmental Management Bureau).

➔ ***Undertake your own "due diligence study"*** or an evaluation of your enterprise's financial viability and sustainability before taking your business proposal to your prospective financing source. Financing institutions and private investors usually set their own criteria or requirements as precondition for providing funds, such as payback period, minimum return of investment, internal rate of return, or positive net present value.

➔ ***Determine your sources of risk*** by subjecting your plan to scenario analysis. You must ensure that you have anticipated various possible outcomes of your business enterprise and that you will be able to implement appropriate risk mitigating measures.

3.3 Who can help you put together your business plan?

The following are various government agencies and private organizations that provide assistance (for free or for a fee) in business plan preparation/packaging:

ANECs
See ***Annex 3***

CCPSP
Project Development Facility
Room 606, 6th Floor, EDPC Building
Bangko Sentral ng Pilipinas Complex, A. Mabini St., Manila
Tel. No. (02) 521-9288/521-4262, Fax No. (02) 526-5179
E-mail: pdf@ccpsp.org
Website: http://www.ccpsp.org

DBP
FINESSE Program
Vice-President, Window III
Senator Gil Puyat Ave. cor. Makati Ave., Makati City 1200
Tel. No. (02) 893-4444/818-9511, Fax. No. (02) 893-5380

DILG
Regional Offices - Project Development and Monitoring Units
Primary contact: Office of Project Development Services,
5th Floor Francisco Gold Condominium II, EDSA cor. Mapagmahal St., Quezon City
Tel. No. (02) 929-9601/9406, Fax. No. (02) 925-0388

DOE
Energy Utilization Management Bureau (EUMB)
See ***Annex 1***

DOF
Local Government Finance and Development Program (LOGOFIND)
Municipal Development Fund Office (MDFO)
Podium Level, DOF Building, Roxas Blvd., Manila
Tel. No. (02) 523-9937 to 39

LBP
The Branch Group Heads
North Central Luzon: (02)840-3045
Southern Luzon and Bicol: (02) s843-2720
Visayas: (02) 840-0852
Mindanao: (02) 844-8438
NCR: (02) 843-3686

NEA
Adopt-A-Barangay & Host Community/IPP Program
See ***Annex 1***

NEDA
Regional Offices- Project Development Assistance Centers
Primary Contact: Regional Development Coordinating Staff
NEDA Bldg., Amber Avenue, Pasig, Metro Manila
Tel. No. (02) 631-3743, Fax. No. (02) 631-3708
See also ***Annex 6***

NGOs and Private Consultants
See ***Annex 5***

Step 4: Financing your business enterprise

☑ After preparing your business plan, you are now ready to take your proposal to potential financing sources whose terms and conditions you had considered in Steps 2 and 3.

In addition to your own funds, the following are several other options that may be explored for financing your business enterprise:

- Equity financing/loan guarantee from private sector
- Loans from government financial institutions and private commercial banks
- Grants, equity contribution or loans from government (national/LGU) and multilateral/bilateral sources of official development assistance

Completed business plan from Step 3

To Step 4

Private Sector Financing

RESCOs These are privately owned renewable energy service companies whose main business is establishing, operating or managing renewable energy-based enterprises in selected sites **(See Annex 5).** The existing RESCOs in the country are currently partnering with NGOs and CBOs in implementing their local investments.

LGUGC The LGU Guarantee Corporation is a private guarantee institution that is majority owned by the Bankers Association of the Philippines with DBP as its partner and helps LGUs obtain private sector loans or sell their bond flotations through its enhancement of LGU loan obligations.

EC and IOU

If you are a CBO or an NGO proponent, your concerned EC or IOU is also a good source for co-financing and could participate in your project as the service provider or the owner of the RE facility. If you are contemplating on EC/IOU funding, involve them in the business planning process.

Technology suppliers

Consult the DOE for information on local or foreign technology suppliers that provide equipment on a variety of financing terms, including loans or lease. You can also visit the website of the NREL for a directory of US renewable energy manufacturers and service providers at http://www.nrel.gov.

Loans

LBP

The Land Bank of the Philippines provides loan assistance for RE projects. Contact the respective Branch Group Heads (see Step 3) or the heads of the Regional Offices and Lending Centers for specific loan requirements (Go to www. landbank.com for contact information).

DBP

The Development Bank of the Philippines is implementing a financing program for hydro, biomass, wind, solar energy, and solar PV for telecom (See Step 3). You can also visit the website: www.finesse-dbp.com for details on these programs.

Rural Banks

The rural banks in your areas are also potential sources of co-financing particularly if your business is integrated with a livelihood component.

Commercial Banks

Depending on the viability of your business enterprise, you can also approach a private commercial bank for your loan application. If you are an LGU proponent, you must also contact the LGUGC for possible guarantee assistance on the loan.

Overseas Banks

If you are a private sector proponent, you can approach certain international funding sources for co-financing, including the World Bank's - International Finance Corporation. Visit their website www.ifc.org for more details on their products & services.

Grants/Government Equity

DOE

The Department of Energy has limited government grant funds for priority barangays to be energized. You need to submit your detailed business proposal to the office of the Director, Energy Utilization Management Bureau **(see Annex 1)**. The DOE can also refer you to multilateral or bilateral funding sources that provide limited grant assistance.

LGU

Assistance in the form of direct contribution from your LGU's Internal Revenue Allocations and/or counterpart resources may be obtained by involving your LGU's Planning and Development Office early on as a stakeholder or partner. This will facilitate obtaining a LGU council resolution that approves financing or other types of support for your business enterprise.

Congress/Senate

You can approach some legislators who may be very interested in allocating their development funds to worthy energy projects.

Step 5: Implementing your business plan

☑ After obtaining the financing, you are now ready to implement your business plan.

At this point, you need to pay particular attention to two important aspects of implementation:

- Installation/construction of your RE facility
- Community and livelihood development

Financing obtained from Step 4 → **To Step 5**

5.1 What do you need to remember about contracting the installation and the construction works for your RE facility?

While your business plan provides details on how to run the enterprise, take extra care with the solicitation, bidding, and selection of your contractors for the installation/ construction work. You need to comply with the guidelines set by your financing source. Your procedure for contracting will depend on the type of financing that you are able to tap for your business enterprise. Following are examples:

Financing Source	Contracting Guidelines
Bank Loan	The lending bank will generally impose compliance to its procurement guidelines as in the case of DBP and LBP (see Step 4 for bank contact information).
Private Sector Financing	You can undertake a bidding procedure, whereby private sector proponents will bid for the opportunity to "finance, construct and operate" your RRES facility under a "Build-Operate-Transfer" or related scheme. (Contact the CCPSP in Step 4 for more information on these schemes) .
Grant Financing by Multilateral or Bilateral ODA source	Your RE facility will generally come from the donor country, and will be set-up and tested by the contractors/experts/consultants who are engaged by the donor organization. Your responsibility is to learn the intricacies of running the facility before the consultants leave!
Technology Supplier's Financing	Your main involvement will be in monitoring the progress of installation/construction, as the supplier will generally use its own manpower.

Reminders:

Maintain Transparency. You should always ensure transparency in your actions and transactions. Make all procedures clear, objective, and known since you are directly accountable to your partners. This also encourages your partners to be active in monitoring the progress of your implementation.

Set and Enforce Standards. Define and adopt standards for your actions and decisions. Be firm on your minimum acceptable qualifications in the conduct of your bidding. To ensure that construction of your facility is technically sound and meets accepted standards, hire only qualified, professional, independent certification technicians or design checkers.

5.2 What do you need to remember about community and livelihood development?

Your community development activities were already started when you conducted your "Partner Consultation and Analysis" in Step 2. What you need to do now is to follow through on the initial rapport established with the community and sustain their interest and participation. From your business plan, the following activities must be started as soon as possible:

- Forming a community association (e.g multi-purpose cooperative, barangay power association) that you can partner with in basic implementation activities like payment collections, consumer feedback and monitoring, technology education and livelihood development.
- Initiating capacity and skills building for the community on livelihood activities that you have earlier identified (in Steps 1 & 2) as suitable given the area's raw material resources.
- Providing financial and/or market linkaging assistance to the community for its income-generating activities.

Step 6: Monitoring and evaluating the progress of your business enterprise

After establishing your RE facility, you are now ready to operate your business enterprise. In doing so, you need to undertake a systematic monitoring of the progress of your operations, including the community development activities.

6.1 Why do you need to monitor your business operations?

There are several reasons why:

- You must do a reality check! You need to determine if you are still on track with your business goals.
- You must be flexible and responsive! You may need to adjust plans and programs, as needed, including decisions on your marketing, pricing, and payment collection schemes.
- You must be efficient and effective! You need to show to your partners that you are using your business resources properly and responding well to consumer needs.
- You must build credibility! You need to evaluate your critical success and failure factors so that others can learn from them.

6.2 What aspects of your operations do you need to monitor?

Your monitoring or tracking system must include such indicators as:

Indicators	Description
Activity schedules and milestones	Important dates and items to be completed; deadlines to be met.
Costs and expenditures	Estimates of how much you need to operate efficiently and reports of your actual expenses.
Production and sales	Projections and actual figures of amount of energy services provided by your business and your revenues.
Market behavior	Market growth and change in demand patterns; consumer feedback.
Technical efficiency	Operating efficiency of your RE facility in terms of reliability and stability.

Annex 1

PHILIPPINE RURAL ELECTRIFICATION PROGRAM AND CONTACT PERSONS

Background: The Philippine Rural Electrification Program is a multi-sectoral initiative of the Department of Energy (DOE) to bring rural electrification to the country's remaining un-energized barangays. To date, there are still over 8, 000 villages around the country that are un-energized. Of these unelectrified barangays, only about 45% can be potentially hooked up to the grid system by extending grid linkages. But the rest of the barangays, which are in remote areas far removed from the grid system, will have to be installed with stand-alone electricity facilities. On average, it will cost about P1.3 - P2 million to energize one barangay. To realize a 100% barangay electrification level by year 2004, a total investment of over P10 billion will be needed.

Goals: Barangay electrification has been a government thrust for the past 30 years. Unfortunately electrification programs have made slow progress, understandably due to geographical as well as funding constraints. Through this program, government is devoting its energy into this policy thrust. The goals of the program are to:

- Encourage greater private sector participation in rural electrification activities.
- In addition to the barangays under government's regular program, energize 3,000 more barangays with the help of the private sector.
- Promote the wider use of new and renewable energy sources (NREs) especially in off-grid areas.

Components:

Independent Power Producer / Host Community Program

There are about 1,700 barangays which could be energized by virtue of their being part of the provinces hosting power projects. Independent power producers (IPPs) are being called upon to directly participate in electrifying barangays in the provinces, which host their power facilities. The IPP may donate or advance the electrification fund and undertake the construction of the electricity distribution lines. Advances made by the IPP shall be reimbursed from the DOE Electrification Fund pursuant to Energy Regulation 1-94. Under this rule, all IPPs are required to pay one (1) centavo per KwH generation for community benefits inclusive of missionary electrification.

Adopt-A-Barangay Program

The DOE is appealing to the sense of citizenship of institutions and/or individuals (e.g. multinationals, embassies, civic and business organizations, NGOs and foundations, especially those with similar concerns), who, in some way, have been connected with the energy sector and those who have the capability to do so. For the business community, helping out in this cause may eventually translate to more business opportunities. As energization is expected to spur development, these communities can become potential markets for products and services which prospective partners are known for.

For more info, please check out the DOE webpage at http://www.doe.gov.ph and/or contact the following persons at DOE, NEA, and NPC.

I. Department of Energy (DOE)
Energy Center, Merritt Road, Fort Bonifacio
Taguig, Metro Manila

Mr. Francisco Benito
Officer-In-Charge Director, Energy Utilization and Management Bureau
☎: (02) 840-1401 Local 342/290/291
🖷: (02) 840-2289
🌍: fbenito@doe.gov.ph

Mr. Reuben Quejas
Division Chief, Non-Conventional Energy Division
☎: (02) 840-1401 Local 335/ 290/ 291
🖷: (02) 840-1817
🌍: rquejas@doe.gov.ph

II. National Electrification Administration (NEA)
NIA Road, Diliman, Quezon City

Ms. Edith Bueno
Deputy Administrator
☎: (02) 929-1909 Local 134/ 435-1631
🖷: (02) 926-1337

Ms. Alice Mercado
Department Manager, Cooperative Operations Department
☎: (02) 929-1909 Local 135/ 926-1329
🖷: (02) 929-1337

Mr. Ed Piamonte
Manager, Alternative Energy Department
☎: (02) 929-1909 Local 173
🖷: (02) 435-1643

III. National Power Corporation (NPC)
BIR Road corner Quezon Avenue
Diliman, Quezon City

Mr. Lorenzo Marcelo
Department Manager, NPC-SPUG
☎: (02) 921-3230
🖷: (02) 920-0120s

Annex 2

STEP 1: ASSESSING YOUR TARGET SITE AND ITS NEEDS: SUMMARY DESCRIPTION OF ASSESSMENT ACTIVITIES

I. NEEDS AND MARKET ASSESSMENT answers the following questions:

- What are the potential end uses/range of applications for electricity in the target site – e.g. lighting, heating, drying, refrigeration, water pumping, livelihood?
- How many potential consumers are there by type of use – e.g. household, commercial, public, etc.?
- What is the projected energy consumption/load by type of consumer?
- What is the expected duration and schedule for using electricity?
- What are the existing energy/fuel sources (e.g. kerosene, dry cell, candle, coal, generator set, etc.) and their levels of use?
- Where are the consumers geo-physically located and concentrated?
- How much are consumers able to pay for future energy services?
- What are the current sources of income of consumers?
- How much are consumers currently spending per month on existing energy/fuel sources?

OUTPUTS: **Energy end-use and willingness to pay (WTP) analyses**
Energy consumption/load identification analyses

II. RESOURCE ASSESSMENT answers the following questions:

- What are the potential resources for producing electricity in the target site – solar, hydro, wind, biomass?
- Where are these resources located relative to the potential consumers?
- What are the levels of availability of these resources?
- What are the distinctive geophysical landmarks (mountains, hills, cliffs, ravines) and environmental conditions (typhoons, flooding, erosion) that may constrain or facilitate construction/establishment of your energy service facility?
- Where are possible sites for locating the future energy facilities?

OUTPUTS: **Resource and Village Maps**
Resource Availability Analysis

III. TECHNOLOGY ASSESSMENT answers the following questions:

- What are the technology options for electrifying the target site based on the available local renewable energy resources?
- What are the corresponding benefits and costs of each option?
- What is the least cost technical option in terms of the following:
  - Technology – solar, wind, ocean, hydro, biomass, hybrid
  - Design – individual or centralized
  - Capacity/Scale – no. of kW/mW
  - Grid reference – off-grid, on-grid or mini-grid
- Who/where are the potential technology suppliers?
- What are their terms for supplying the technology?
- Is there a local capability for technology servicing?

OUTPUTS: **Cost-Benefit Analysis of Technology Options**

Annex 3

DOE – AFFILIATED NON-CONVENTIONAL ENERGY CENTERS (ANECS)

Engr. Edgar Molintas
College of Engineering and Applied Technology
Benguet State University, La Trinidad, **Benguet**
Tel (074) 422-2401 to 02 / 309-1453
Fax (074) 422-2281

Engr. Rodolfo S. Yadao
College of Engineering, Central Mindanao University
University Town, Musuan, **Bukidnon**
Tel (088) 844-2520; (02) 521-6036 (CMU Manila Office) /
(0917) 713-4289

Engr. Alejandro S. Villamor
College of Agriculture, Xavier University
Cagayan de Oro City
Tel (08822) 724-096 / (088) 858-8962
Fax (08822) 722-994 / (08822) 722994

Dr. Yolanda L. Castroverde
Camarines Sur State Agricultural College
Pili, **Camarines Sur**
Telefax (054) 361-1411

Engr. Jaime Dilidili
College of Engineering, Cavite State University
Indang, **Cavite**
Tel (046) 415-0021 / 415-0010
Fax (046) 415-0012

Mr. Rene E. Alburo
Area Research and Training Center, University of San Carlos
P. del Rosario St., **Cebu City**
Tel (032) 253-1000 loc. 207
Fax (032) 253-7183 / 7989 / 348-7941 (PVP)

Engr. Fulton U. Yap
University of Southeastern Philippines
Davao City
Telefax (082) 221-1836

Dr. Nichol R. Elman
University Extension Program, Silliman University
Dumaguete City
Tel (035) 225-2900/ 422-6002 loc. 236
Fax (035) 225-2900 / 225-4768 / 422-7207

Engr. Rudy Bareng
College of Agriculture and Forestry
Mariano Marcos State University
Batac, **Ilocos Norte**
Tel (0918) 217-5431 / 5432 / (077)-792-3197
Fax (077) 792-3191 / 3879 / 3192

Engr. Jeriel G.Militar
College of Engineering, Central Philippine University
Jaro,**Iloilo City**
Telefax (033) 320-3004

Engr. Ramon Velasco
College of Engineering, Isabela State University
Echague, **Isabela**
Tel (076) 672-2474

Dr. Amado P. Imper
Kalinga-Apayao State College
Tabuk, **Kalinga**
Tel (078) 579-4204 (c/o Mrs. Mary Imper)

Engr. Mangompia U. Angod
College of Agriculture, Mindanao State University
Marawi City, **Lanao del Sur**
Telefax (063) 520-904

Dr. Arturo M. Figueroa
College of Engineering
Don Mariano Marcos Memorial State University
Bacnotan, **La Union**
Tel (072) 242-5641 loc. 256
Telefax (072) 242-5642

Engr. Roque C. de Pedro, Jr.
Visayas State College of Agriculture
Baybay, **Leyte**
Tel (053) 325-5448 / (0918) 501-2441
Telefax (053) 335-0601

Engr. Lidany F. Cornillez
University of Eastern Philippines
Catarman, **Northern Samar**
Tel (055) 354-1347 / 1349
Telefax (055) 354-1447

Dr. Armando Espino
College of Engineering
Central Luzon State University
Munoz, **Nueva Ecija**
Telefax (044) 456-0688

Engr. Bernardo J. Ocampo
College of Engineering
State Polytechnic College of Palawan
Aborlan, **Palawan**
Tel (048) 433-4480

Dr. Nelson T. Binag
Sultan Kudarat Polytehnical State College
Barrio 2, Tacurong, **Sultan Kudarat**
Tel (064) 200-4253 / 4281

Mr. Felizardo S. Rebollos
Western Mindanao State University
Zamboanga City
Tel (062) 991-5897
Fax (062) 991-3085

Annex 4

NEA REGIONAL OFFICES

REGION I
ITC, Agoo, La Union
Telefax thru PT&T (072) 710-0249
SO Genaro O. Cada
RIM Rodolfo D. Villegas
RFM Rogelio B. Bernal
RTM Domingo G. Ortega

REGION II
Isabela Hotel, Minante I, Cauayan, Isabela
Telefax (078) 652-2296
RD Agustin L. Maddatu
RIM Restituto F. Abellera
RFM Efren G. Gungon
RTM Nicasio L. Baloyu

REGION III
4/F Freluz Building, Gapan-Olongapo Rd.,
San Fernando, Pampanga
Telefax (045) 961-2226
RD Alberto A. Guiang
RIM Gloria M. Pangilinan
RIM Eduardo G. Mangubat
RFM Romulo A. Ridad
RTM Victorino A. Villaverde
RTM Reynaldo S. Cuevas Jr.

REGION IV
Rm. 3. 2/F, Ragasa Commercial Complex,
730 National Highway, Parian, Calamba, Laguna
Telefax (049) 545-7381
Acting RD Mario M. Tanyag
RIM Rodelio L. Hernandez
RFM Rpmeo V. Acuesta
RTM Benjamin B. Tirona
RTM Enrique J. Diamante

REGION V
2/F Karlenian's Bldg., Panganiban Street, Naga City
Tel (054) 737-105 / Telefax (054) 811-2611
RD Merlin T. Rosales
RIM Vicente C. Frondozo
RFM Orlando M. Andres
RTM George A. Din

REGION VI
Sarabia Manor Bldg., Gen. Luna Street, Iloilo City
Telefax (033) 335-0019
RD Victor C. Noriega
RIM Cesar R. Valdez
RFM Isidro E. Edquila
RTM Romulo U. Garduque

REGION VII
MJ Cuenco Avenue cor. Legaspi Street, Cebu City
Tel (032) 253-3116 / 254-5231
Fax thru CEVECA (032) 254-7684
RD Eufemio C. Genovia
RIM Evangelito S. Estaca
RIM Merlita R. Gaudiel
RFM Eduardo O. Bueno
RTM Elias C. Casiño
RTM Honorio M. Samia

REGION VIII
Kertz Apartment, Marasbaras, Tacloban City
Tel (053) 323-5262 / Telefax (053) 323-5261
RD Bienvenido R. Leal
RIM Policarpio P. Lara
RFM Eddie A. Adiao
RTM Bienvenido S. Bonifacio

REGION IX
596-A Canelar Moret, Zamboanga City
Telefax (062) 991-7460
Acting RD Engr. Patricio S. Dela Peña
Acting RIM Lalaine T. Sebastian
RFM Felicisimo L. Tan
RTM Sergio A. Bautista

REGION X
306 Ramoncita Velez St., Apovel Subd.,
Bulua, Cagayan de Oro City
Tel (08822) 735-701 / Telefax (082) 858-9660
RD Benedicto B. Peralta
RIM Gregorio G. Arquero
RFM Sherwin C. Mañada
RTM Domingo S. Santiago Jr.

REGION XI
Green Heights Business and Convention Center, Diversion Road, Davao City
Tel (082) 241-1861 to 62 / Telefax (082) 241-18634
RD Engr. Reynaldo V. Sevilla
RIM Diosdado A. Corsiga
RFM Modesto M. Madrona Jr.
RTM Jaime C. Ner Jr.

REGION XII
17 Ilang-Ilang Street, Cotabato City
Telefax (064) 421-4991
RD Lauro L. Baltazar
RIM Felix V. Fabunan
RFM Edgar C. Tipon
RTM Felicisimo U. Pula

SO - Senior Officer
RD - Regional Director
RIM - Regional Institutional Manager
RFM - Regional Financial Manager
RTM - Regional Technical Manager

Annex 5

PARTNER INSTITUTIONS IN RE BUSINESS DEVELOPMENT*

Alternative Energy Development Philippines, Inc. (AED-Phil)
LAURIE B. NAVARRO, President
2302 Medical Plaza Ortigas Condo
25 San Miguel Avenue
Ortigas Center, Pasig City
Tel No. (02) 910-3008; 638-5529
E-mail: lnavarro@aed-p.com.ph
- Site Assessment
- Technology Evaluation
- Community Preparation & Capacity Build-up
- Business Planning
- Financial Linkaging

Center for Renewable Resources and Energy Efficiency (CRREE)
ANTONIO DE CASTRO, Director
47 San Antonio St. Room B
Quezon City
Tel No. (02) 434-3660 to 61 / 412-8968 / 0917-388-5251
Fax No. (02) 373-0987
E-mail: decastro@pacific.net.ph
- Site Assessment
- Technology Evaluation
- Community Preparation & Capacity Build-up
- Business Planning
- Financial Linkaging

Countryside Technology Consortium, Inc.
CONSTANTINO T. SUDAYPAN, President and Chairman
College of Engineering
Benguet State University
La Trinidad, Benguet
Tel No. (074) 309-1314/ 0919-366-99-36
- Site Assessment
- Technology Evaluation
- Design, Construction, and Commissioning
- Community Organizing & Capacity Build-Up
- Business Planning
- Financial Linkaging
- Technology Education

De La Salle University
Center for Engineering, Research, Training and Consultancy
SUSAN GALLARDO, Acting Director
De la Salle University
2401 Taft Avenue, Manila 1004
tel No. (02) 524-4611
Fax No. (02) 521-0563
E-mail: coesmg@mail.dlsu.edu.ph
- Technology evaluation & design
- Technology provider – hydro system
- Technology education

Don Bosco Technical College
PERFECTO O. BERNAD, Dean
College of Engineering
736 Gen. Kalentong St.
Mandaluyong City, Metro Manila
Tel No. (02) 531-3081
Fax No. (02) 531-6644
- Technology evaluation & design
- Technology provider – hydro
- Technology education

Energy Development and Utilization Foundation, Inc. (EDUFI)
BENJAMIN S. AUSTRIA, Executive Director
G/F Phinma Building
166 Salcedo St., Legaspi Village
Makati City
Tel. No. (02) 840-0317
Fax. No (02) 812-3990
E-mail: edufi@evoserve.com
- Site Assessment
- Technology Evaluation
- Business Planning
- Financial Linkaging

LGU Guarantee Corporation (LGUGC)
JESUS G. TIRONA, President/CEO
Tel. No. (02) 845-3385
VICENTE A. LAZA, Sr. VP for Business Development
Tel. No. (02) 751-8764 to 67
LYDIA N. ORIAl, Sr. VP for Operations
Tel. No. (02) 845-3386
28th Floor, Antel 2000 Corporate Center
121 Valero cor. Herera Sts. Salcedo Village,
Makati City
- Credit Enhancement
- Risk Evaluation
- Financial Advisory

MADECOR Environmental Management Systems, Inc. (MADECOR)
DR. CARLITO BARRIL
President
MADECOR Building
10001 Mt. Halcon St., Umali Subd.
Los Banos, Laguna
Tel No. (049) 536-0649 / 0054 / 0055 / 0917-500-5209
Fax No. (049) 536-0649
E-mail: memsi@laguna.net / memsi@baylink.mozcom.com
- Site Assessment
- Technology Evaluation
- Business Planning

* *Limited listing only.*

Philippine Association of Small Hydropower Development, Inc. (PAS-Hydro)
MANNY M. VERGEL III, President
Tel No.(02) 362-0950 / 412-9695
- Site Assessment
- Technology Evaluation and Design
- Technology Provider - Hydro Systems

Philippine Rural Reconstruction Movement (PRRM)
WIGBERTO TANADA, President
Rolando Orozco, Natural Resources Management Specialist
No. 56 Mother Ignacia Avenue cor Dr. Lascano St., Quezon City
Te. No. (02) 372-4988 / 372-4084
Fax No. (02) 372-4995
- Site Assessment
- Community Preparation & Capacity Build-up
- Business Planning

Preferred Energy Investments (PEI)
GRACE S. YENEZA, Managing Director
10/F Strata 100 Building
Emerald Avenue, Ortigas Center
Pasig City
Tel No. (02) 631-3078 / 631-2826
Fax No. (02) 632-7097
E-mail: pei@info.com.ph
- Business Planning
- Financial Linkaging
- Technology Evaluation
- Project Development & Investment

Resource Group, Inc.
VIC O. ROARING, Executive Director/Managing Director
11 Liamzon St., Marcos Highway
Midtown 1, Marikina City
Fax No. (02) 645-8167 / 646-7319
E-mail: resource@compass.com.ph
- Site Assessment
- Technology Evaluation
- Business Planning

RESCO
Shell Renewables Philippines
FELIX M. CORDERO
19/F Asian Star Condominiun
ASEAN Drive, Filinvest Corporate City, Alabang, Muntinlupa
Tel. No. (02) 876-4000
Email: felix.cordero@shell.com.ph
- Financing partner
- Systems integrator

RESCO
Smith Bell Renewable Energy Services Corporation
FAUSTO PREYSLER, President and Chairman of the Board
RUTH YU-OWEN, Chief Operating Officer
Smith Bell Building, 2294 Pasong Tamo Extension
1231 Makati City
Tel No. (02) 816-7851 to 58
Fax No. (02) 815-0199/813-6949
Email: ruthowen@smithbell.com.ph
- Financing partner

Sibol ng Agham at Teknolohiya (SIBAT)
VICTORIA M. LOPEZ, Executive Director
No. 28 Road 5, GSIS Hills
Novaliches, Quezon City
Fax No. (02) 983-1947 / 983-1953
E-mail: vlopez@pacific.net.ph
- Site Assessment
- Technology Evaluation
- Community Preparation & Capacity Build-up
- Business Planning
- Financial Linkaging

Technology Development Extension Group, Inc.
ANGELITO V. ANGELES, Managing Director
Tumana, Palestina, San Jose City, Nueva Ecija
Tel/Fax No. (02) 931-5932 / (0917) 814-6558
E-mail: kabisig1@mozcom.com
- Site Assessment
- Technology Evaluation & Education
- System Design, Construction, and Commissioning
- Social Preparation & Institutional Capacity Build-Up
- Business Planning
- Financial Linkaging

Total Solutions Technology, Inc/ World Water Philippines, Inc.
RONALD O. DIOLA, President & CEO
Suite 506 Cebu Holdings Center
Cebu Business Park, Cebu City
Tel No. (0918) 909-2204
Fax No. (032) 231-5599
E-mail: raddyd@pacific.net.ph
- Site Assessment
- Technology Evaluation
- Community Preparation & Capacity Build-up
- Business Planning
- Financial Linkaging
- Technology Provider - Solar Solutions

UP- Solar Laboratory
ROWALDO R. DEL MUNDO, Head
University of the Philippines
Department of Electrical and Electronics Engineering
Diliman, Quezon City 1101
Tel No.(02) 434-3660 to 61 / 920-5301 loc. 5829
Fax No. (02) 922-4717
E-mail: delmundo@eee.upd.edu.ph
- Site Assessment
- Technology Evaluation
- Business Planning

Yamog Renewable Energy Development Group, Inc.
NAZARIO R. CACAYAN, Projects Director
JL2-A Denia Apartment
Juan Luna St., 8000 Davao City
Tel No. (0919) 704-5171
Telefax No. (082) 227-4031
E-mail: yamog@interasia.com.ph
- Site Assessment
- Technology Evaluation
- Community Preparation & Capacity Build-up
- Business Planning
- Financial Linkaging

Annex 6

NEDA REGIONAL OFFICES AND PROJECT DEVELOPMENT ASSISTANCE CENTERS*

CAR
Mr. JUAN B. NGALOB
Botanical Garden, Leonard Wood, Baguio City
Tel (074) 442-9573 / 444-7144
Fax (074) 442-3232 / 442-3233
E-mail micad@mozcom.com

Region I
Mr. LEONARDO N. QUINTOS
2500 Guerrero Road, San Fernando, La Union
Tel (072) 888-5501 / 888-2680
Fax (072) 888-2708 / 888-2680
E-mail nedalu@sflu.com

Region II
Ms. MILAGROS A. RIMANDO
NEDA, Region II Office
Tel (078) 844-1336 / 846-7280
Fax (078) 844-1243
E-mail nr02@cagayan.inext.net

Region III
Mr. REMIGIO A. MERCADO
2nd Floor, Hyatt Garden, San Fernando, Pampanga
Tel (045) 963-6772 to 73 / 860-2214
Fax (045) 961-3902
E-mail neda3@mozcom.com

Region IV
Mr. OSCAR D. BALBASTRO
NEDA Complex, EDSA, Quezon City
Tel (02) 929-1644 / 1828 / 929-9272
Fax (02) 929-6479
Email nro4@mail.neda.gov.ph

Region V
Ms. MARLENE Ca. P. RODRIGUEZ
Arimibay, Legaspi City
Tel (052) 482-0252 / 820-5899
Fax (052) 482-0600 / 214-3238
Email neda5@globalink.net.ph

Region VI
Atty. TRUMAN T. CAINGLET
Fort San Pedro, Iloilo City
Tel. (033) 337-6840 / 2671
Fax (033) 337-2400 / 335-1070
Email nro6@iloilo.net

*Offices of the Regional Directors

Region VII
Mr. ROMEO C. ESCANDOR
3/F Tancher Building, Escario Street, Cebu City
Tel (032) 253-8959 / 8126 / 8132
Fax (032) 253-0489
Email nro7@nro7.neda.gov.ph

Region VIII
Mr. BUENAVENTURA C. GO-SOCO JR.
Government Center, Palo, Leyte
Tel (053) 323-2147 / 3090 / 321-4507
Fax (053) 323-3093 / 3110
Email neda8@mail.evis.net.ph

Region IX
Mr. RAFAEL G. EVANGELISTA JR.
Justice R.J. Lim Boulevard, Zamboanga City
Tel (062) 991-6741
Fax (062) 991-1364
Email neda9@jetlink.com.ph

Region X
Mr. RAYMUNDO E. FONOLLERA, PhD
NEDA Regional Office 10, Cagayan de Oro City
Tel (08822) 722-168 / 723-436
Fax (08822) 728-072
Email neda10@coronet.com.ph

Region XI
Ms. AURORA R, PELAYO
Maxima Bldg., J.P. Laurel Avenue, Davao City
Tel (082) 227-2692 / 226-4212
Fax (082) 221-0657 / 226-4212
Email neda11@skyinet.net

Region XII
Ms. MA. LOURDES D. LIM
NEDA Regional Office 12, Cotabato City
Tel (064) 421-2912 / 421-1082
Fax (064) 421-1974 / 421-1081
Email neda12@microweb.com.ph

CARAGA
Mr. JOSE V. MAZO
072 J. Satorre Street, Butuan City
Tel (085) 225-2951
Fax (085) 225-2952
Email nedaxiii@butuanonline.net

Annex 7

CHECKLIST FOR BUSINESS PLAN PREPARATION

The following are suggested items to be included in an ideal business plan. You can also refer to other project development or business planning books for alternative formats and designs:

1. **Business Description**:
   - Identify the location of the business
   - Define history of the entrepreneur/service provider
   - Identify mission statement or goal of the business
   - Define history of the market for energy services
   - Identify target market geographically and demographically
   - Describe the operations (product/production/sales) of the business
   - Develop profiles of managers/officers
   - Develop a financial summary

2. **Market Analysis & Electricity Demand:**
   - Define the enterprise market location/geographic boundaries
   - Describe customer buying forces
   - Identify the target for focused marketing efforts within larger target market
   - Identify competing & complementing products/services
   - Estimate electricity demand and sales

3. **Marketing Plan**
   - Identify marketing goals
   - Describe the marketing strategy
   - Prepare a marketing budget

4. **Community and Livelihood Development Plan**
   - Define activities for further social preparation, technology education and community organization
   - Describe potential livelihood and income generating activities in the community
   - Identify activities for capacity and skills build-up related to identified livelihood opportunities
   - Identify your interventions/assistance in terms of financial linkaging and facilitation for the identified livelihood potentials

5. Technical design, equipment procurement, and construction plan

- Describe energy generation source and technology
- Define the equipment needed
- Estimate construction costs
- Determine vendor's list
- Assess the contractors and suppliers

6. Operating Plan

- Define day-to-day operating procedures
- Describe the operating facilities
- Describe how facilities will be procured
- Describe how the energy service will be sold
- Describe the service/product delivery system & means of payment collection
- Establish an inventory control system
- Establish a quality control system
- Establish a business performance monitoring, evaluation and reporting system

7. Institutional/Organizational Plan

- Identify the form of ownership
- Define the management philosophy
- Create an organizational structure
- Define activities for social preparation and community capacity build-up
- Define personnel and compensation policy

8. Financial Analysis

- Determine the business cash flow
- Define the capital structure and financial conditions
- Determine the impact/cost of capital financing to consumers
- Define the financial controls and performance standards
- Define the sources of risk and mitigation strategies

** Adopted from Report 215/99 "Lao PDR Institutional Development for Off-Grid Electrification", ESMAP June 1999*

Annex 8

CHECKLIST FOR SOCIAL PREPARATION

The following is a suggested checklist of activities for the social preparation aspects of developing your rural renewable energy service enterprises:

A. Preliminary Social Investigation

- Hire a locally-based community organizer to be your local guide/coordinator
- Pay a courtesy call to local executives (Mayor, Barangay Captain)
- Secure Mayor's permit to conduct site visits
- Organize a meeting of the Barangay Development Council (BDC) as venue for the investors to present their proposed business concept/idea
- Administer Key Informant Interview with respected leaders in the community
- Conduct Focus Group Discussion with the key sectors in the barangay (women, elderly, entrepreneurs, farmers, etc.)
- Arrange for subsequent consultation meetings with leaders of existing NGOs, Farmers' Associations, Cooperatives, etc.

B. Deepening Social Investigation

- Organize a mapping of the barangay (i.e., draw a sketch) with community representation during the planning and "walk-thru"
- Secure municipal/barangay socio-economic data
- Engage a community organization or NGO to Conduct a Participatory Rural Appraisal (PRA)
- Use PRA resource map to refine GPS maps
- Convene a general assembly meeting to validate PRA data
- Furnish copies of PRA reports to the BDC and Mayor
- Make a list of prospective local leaders
- Produce a manifesto resolution indicating the families who express interest in availing of the services to be offered by your business enterprise

C. Conduct of Renewable Energy Resource Assessment

- Seek barangay clearance to undertake resource assessment
- Mobilize group of families who will join as volunteers in the resource assessment team (Survey Team)
- Provide logistical support to the Survey Team

D. Construction and Operation and Maintenance of NRE System

- Get recommendations from the Mayor/Barangay Captain for the labor force necessary in the installation, construction, and Operational & Maintenance (O&M) of the NRE system
- Conduct NRE system O&M training (service units, wiring package, NRE benefits, etc.)
- Actual construction, commissioning of equipment
- Operation and Maintenance (if investor will express interest of handing over O&M responsibilities to cooperative, NGO, other CBO)

This checklist was prepared with the assistance of Tony De Castro and Angelo Miclat of the Center for Renewable Resources and Energy Efficiency (CRREE), a non-profit Philippine NGO, currently involved in developing renewable energy enterprises in Palawan and Aklan. Please refer to Annex 5 for CRREE's contact information.

ACKNOWLEDGEMENTS

We wish to thank the following colleagues and partners in the renewable energy sector for their contribution in the preparation of this business development guidebook.

- Alternative Energy Development-Philippines, Inc (AED-Phil) - Laurie Navarro
- Center for Renewable Resources and Energy Efficiency (CRREE) - Tony De Castro and Angelo Miclat
- Central Luzon State University-ANEC - Lito Angeles
- Cavite State University-ANEC - Jaime Dilidili
- Coordinating Council for Private Sector Participation (CCPSP) - Antonio Fleta
- Department of Energy-Energy Industry Administration Bureau (DOE-EIAB) - Yolly Villaseñor
- Department of Energy-EUMB - Reuben Quejas, Fely Arriola, and Fort Sibayan
- Department of Interior and Local Government (DILG) - Normando Toledo
- Development Bank of the Philippines (DBP) - Eufemia Mendoza
- Iligan Light and Power Corporation - Avelino Quiamco
- Iloilo Electric Cooperative I - Wilfred Billena
- Land Bank of the Philippines (LBP) - Cris Selispara
- LGU Guarantee Corporation (LGUGC) - Jesus G. Tirona, Vicente A. Laza, and Lydia N. Orial
- National Economic Development Authority (NEDA) - Marcelina Bacani, Violy Conde, and John Uy
- National Electrification Administration (NEA) - Edith Bueno, Ed Piamonte
- National Power Corporation (NPC) - Aida Pujanes
- National Renewable Energy Laboratory (NREL) - Ron White, Roger Taylor, and Laura Vimmerstedt
- PA Consulting Group, Arlington, USA - John Armstrong and Keith Kozloff
- Philippines Climate Change Mitigation Program (PCCMP) - Renato Goco
- Philippine National Oil Company-Energy Development Corporation (PNOC-EDC) - Benjamin Lim and Agnes De Jesus
- Palawan Electric Cooperative - Digs Reginio
- Preferred Energy, Inc. (PEI) - Grace Yeneza
- Sibol ng Agham at Technolohiya (SIBAT) - Vicky Lopez
- USAID-OEM - Christine Idquival, Cat Tatlonghari and Jose Dulce
- USAID-Program Resource Management - Fatima Verzosa and Gil Dy-Lliaco
- Zamboanga Del Sur Electric Cooperative I - Decca Judilla

Francisco A. Benito
Director,
Energy Utilization Management Bureau
DOE

Rosario S. Calderon
Senior Technical Advisor
Office of Environmental Management
USAID

Publisher:

Department of Energy
Energy Center, Merritt Road,
Fort Bonifacio, Taguig, Metro Manila
Tel. No: Trunkline (02) 840-1401
Fax No: (02) 840-2289 / 840-1817
Website: http://www.doe.gov.ph

Editorial & Research Team:

Philippines Climate Change Mitigation Program

Arlene Donaire-Pamintuan, Deputy Chief of Party/Advisor for Barangay Electrification
Michelle Celi, Program Assistant
Alex Tamayo, IT and Systems Manager
Mary Anne Velas, Program Assistant/Style Editor
(The following Program staff provided administrative support in the development of this Guidebook: Renato Galang, Laura Mateo, Joanne Dulce, Maricel Rodriguez, Francis Francisco and Nene Lima)

Graphics Artist: Lillette De Lara

This guidebook is also available online at the following websites:

www.ccic.ateneo.net
www.doe.gov.ph

April 2001
Makati, Metro Manila

Philippines Climate Change Mitigation Program

Prime Contractor - PA Consulting Group
Unit 2102, 21st Floor Antel 2000 Corporate Center, 121 Valero Street, Salcedo Village,
Makati City 1200, Metro Manila, Philippines
Phone: (632) 751-9422; Fax: (632) 751-9420; E-Mail: pa.consult@pccmp.com.ph