



**The Creation and Strengthening of the Capacity for Sustainable
Renewable Energy Development in Central America
(FOCER)**

UNDP-GEF Medium Size Project (RLA/99/G35)

FOCER EVALUATION

Final Report

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ACRONYMS

ACRONYM	COUNTRY	MEANING
ADEMIPP	Panama	Asociación para el desarrollo del micro y pequeño productor
AHPPER	Honduras	Asociación Hondureña de Pequeños Productores de Energía Renovable
ANCON	Panama	Asociación nacional para la conservación de la naturaleza
ATDER - BL	Nicaragua	Asociación de trabajadores del desarrollo rural Benjamín Linder
BCIE	Honduras	Banco Centroamericano de Integración Económica
BP		Business Plan
BILWASKARMA	Nicaragua	Clinica de salud Bilwaskarma
BUN-CA	Costa Rica	Biomass Users Network - Central America Office
CCAD		Comisión Centroamericana de Medio Ambiente y Desarrollo
CDM		Clean Development Mechanism
CNC		National Peasant Confederation (Confederación Nacional Campesina)
CONACE	Costa Rica	Comisión Nacional de Conservación de Energía (CONACE)
COOPEUNIORO	Costa Rica	Cooperativa autogestionaria de extracción orera R.L.
DSE	Costa Rica	Dirección Sectorial de Energía
ENEE	Honduras	Empresa Nacional de Energía Eléctrica
ESCO		Energy Service Company
FENERCA	Costa Rica	Financiamiento de Empresas de Energía Renovable en América Central
FMAM	México	Fondo para el Medio Ambiente Mundial
FOCER	Costa Rica	The Creation and Strengthening of the Capacity for Sustainable Renewable Energy Development in Central America
FUNPROTECA	Nicaragua	Fundación nicaraguense para la promoción de tecnologías alternativas
GHG		Greenhouse Gases
ICE	Costa Rica	Instituto Costarricense de Electricidad, San José
IFREE	USA	International Fund for Renewable Energy and Energy Efficiency
KP		Kyoto Protocol
NGO		Non-Governmental Organisation
PECC	Costa Rica	Programa de Energía y Cambio Climático para Latinoamérica y el Caribe
PPA		Power Purchase Agreement
PRODER	Honduras	Programa de Energías Renovables
PROMUNI	Honduras	Credit line of BCIE
PV		Photovoltaic
RE		Renewable Energy
SEDES	Honduras	Empresa de servicios para el desarrollo sostenido
SERNA	Honduras	Secretaría de Recursos Naturales y Ambiente
TUVA	Costa Rica	Fundación Tierra Unidas Vecinales por el Ambiente
UNFCC		United Nations Framework Convention on Climate Change
USAID	USA	United States Agency for International Development
US-ECRE	USA	US Export Council for RE

0 EXECUTIVE SUMMARY

FOCER is a program implemented by UNDP-GEF and executed by the NGO BUN-CA in Central America. The main objective of FOCER is to create and strengthen the capacity for sustainable renewable energy project development, based on regional cooperation and in-country linkages, reducing greenhouse gas emissions by fostering small-scale RE in Central America. This project is a MSP endowed with US\$750,000 to be executed between May 2000 and July 2002. Because of its general objectives and the characteristics of the region, it is in-line with GEF's Operational Program # 6, and responds to the development priorities of the Central American nations.

The specific objectives aim at the removal of barriers that impede the development of the RE in the region. To remove them, FOCER was designed with 6 activities that included the development of replicable RE projects, feasibility studies, strengthening of human and institutional capacity in the region, coordination for dissemination and integration of RE in regional policy. The project outcome and indicators were well established thanks to previous work, thorough knowledge of the region and its characteristics, an appropriate balance between the size of the projects and the local capacity of development and management of the projects, the time span and the available resources.

As a result of FOCER, 8 demonstrative projects were implemented in 7 countries for productive uses to service off-grid communities with different renewable alternatives (hydropower, cogeneration and solar PV, for a total of 9.7 kW installed capacity and 300 beneficiaries). FOCER also contributed to the preparation of 13 projects in the form of business plans, implemented a training program, strengthened regional organizations, fostered potential new enterprises through linkages between financiers, developers, engineering services and regional technologies suppliers.

The co-financing results are of great importance. BUN-CA mobilized co-financing funds for a total of US\$3.4 million. Comparing this value to the total FOCER funding of US\$0.75 million, it means a leverage factor for the GEF of 6. In terms of investment, the ratio is even higher. Just considering a single project like the Tres Valles cogeneration project (in development), the total investment is US\$6.67 millions and the leverage ratio is 9. If all the projects are implemented, the total installed new capacity amounts 20 MW and the investment US\$20 million. Synergy with other projects like FENERCA and close interaction with other financiers has been successful in the financing of the RE projects.

FOCER has strengthened the human and institutional capacity by offering national seminars (6), and workshops, not only on technology (8) but also on project financing (10), with more than 10,000 training hour-person. FOCER also produced good manuals (on technical and financial RE issues) that can be distributed to a broad sector of interested people in the region.

As a result of FOCER activities, there is a substantial increase in RE awareness in government's officials and better integration of the RE in national policies related to national energy and environmental plans. FOCER keeps permanent contacts with political authorities in the 7 countries, at Ministerial and Planning Offices Level. The project also documented and analysed the policy barriers that RE faces in 5 countries in a Central American Meeting of Directors of Energy. The project also supported SERNA and UNDP in the discussions of the Honduras' RE Law and Guatemala for the Law of RE incentives.

The implementation of the feasible FOCER projects, would result in the mitigation of 20,000 tons of CO₂ per year.

This project can be considered successful in terms of achievements, cost/benefit ratio, timeliness and management efficiency. Its key success elements have been: Extensive preparation work of the project; profound knowledge of the energy, environmental and political problems of the region; good planning, organization, management and follow-up of the project; the good participation and commitment degree by the stakeholders, the UNDP national officers, local governmental officers and FOCER representatives.

The lessons learned in this project could be applied to other regional projects.

The most important contribution of this UNDP-GEF project is not in the magnitude of the results themselves, but in the direction of the barriers removal process.

1 INTRODUCCION

FOCER is a project implemented by UNDP-GEF¹ and executed by BUN-CA² Costa Rica during the period of May 2000 to July 2002, for the Creation and Strengthening of the Capacity for Sustainable Renewable Energy Development in Central America.

The main objective of the FOCER initiative is:

- To create and strengthen the capacity for sustainable renewable energy project development based on regional cooperation and in-country linkages, thereby reducing greenhouse gas emissions by fostering small-scale RE in Central America.

Specific objectives are to remove institutional, informational, financial and technical barriers to³:

- Increase access to basic energy services of a greater number of the Central Americans, but mainly those in rural areas without access to electricity and reliable energy services for productive uses
- Use renewable energy sources to replace fossil fuels for small-scale electricity generation and –to a lesser extent- substitute and reduce the consumption of woody biomass, thereby decreasing local environmental degradation.
- Initiate discussion to facilitate the integration of (global) environmental protection into the energy policies of the Central American political agenda.

The total allocated UNDP-GEF budget for the project was US\$750.000.

At the end of the project, UNDP has subjected the project to external evaluation. This document presents the results of this evaluation.

2 PROJECT OUTCOME

Expected outcome of the project were as follows⁴:

- Replicable experience of sustainable energy solutions created and demonstrated by implementing 8 demonstration projects in 7 countries for productive use to service off-grid communities with different renewable alternatives
- Innovative financial mechanisms and the required procedures to make available investment capital established as a result of the preparation of 13 projects in the form of business plans
- A training program implemented
- Regional organizations strengthened and potential new enterprises fostered through linkages between finances, developers, engineering services and regional technologies suppliers
- Government officials aware of the benefits of renewable energy and interested to integrate RE within their development policies.

¹ Project Name: The Creation and Strengthening of the Capacity for Sustainable Renewable Energy Development in Central America (FOCER) - Project Number: LA / 99/ G35

² BUN-CA: Biomass Users Network – Central America – Costa Rica

³ Project Document. 14/04/2000. Page 6

⁴ Ibid 3

3 FOCER EXTERNAL EVALUATION

3.1 OBJECTIVES

The objective of the evaluation is to provide to UNDP-GEF a brief and objective evaluation of the following elements of the project FOCER, as established in the TOR (pages 2 and 3)⁵:

- Project Concept and Design
- Project Implementation
- Project Outputs and Achievements
- Sustainability

3.2 TASKS TO BE PERFORMED

In line with the TOR⁶, the consultant was proposed to perform the following:

- Review of all existing documentation of the project⁷
- Propose a methodology for the evaluation, and implement this methodology upon formal approval by UNDP-GEF⁸
- Meeting with project executing agency as well as associated firms like E&Co under USAID financing and other NGOs present in the region, working in close partnership with BUN-CA⁹
- Meeting with beneficiaries including at least 2 project developers, 2 financial institutions, 2 governmental agencies and 2 high level policy makers involved in the project (See 12.6).
- Site visit to 2 demonstration projects

3.3 METHODOLOGY

The methodology for this evaluation will consider Information Acquisition and Evaluation.

Information of the Project. The information will be mainly obtained directly from BUN-CA, from the reports and documents produced during the project. The external reports of financial audit and administration, as well as the results of the tripartite evaluations, will be considered.

Interviews. Another source of information will be the interviews⁷ to different institutions, organizations and participants in the project. The objective is to know aspects that allow the evaluation of performance of the project in terms of results, strengthening of the institutions, networking, capacity-building and learned lessons. Also on how the results of projects of this nature could be improved.

Field visits. The objective of the field visits is to get to know the demonstrative projects, to determine their capacity and local impact as well as to know the problems and the way they were solved.

⁵ FOCER – Terms of Reference – 6/5/2002

⁶ Ibid 4

⁷ See Sections 12.4 and 12.5 for list of reviewed documents

⁸ See Section 3.3

⁹ Agenda of meetings See Sec. 12.6

Evaluation of information. The documentation will be reviewed and it will be evaluated in accordance with the developed indicators. The developed indicators are quantitative in nature and they will be observed in their evolution during the time of execution of the project.

The information of the project will also be reviewed qualitatively from the technical and organizational points of view, costs and replicability, among other factors. The starting point is the experience of the evaluator.

4 PROJECT CONCEPT AND DESIGN

4.1 REGIONAL CONTEXT

After several decades of war in the Central American region, the peace agreements were signed in the first half of 1990s and a social adjustment process in the region began.

Starting 1995, a re-structuring of the public sector began in the region. While in several countries the privatization head towards the entirety of the electric sector, in other countries the process has been partial and in Costa Rica, the process never became a reality. This privatization process has been very fast in the last 3 years in Central America. The laws of the electric sector were promulgated in different countries (1996: Panama; 1997/1998: San Salvador; 1998: Guatemala, and so on). This privatization process was achieved partially in Belize (51% of the electric company of Belize was sold to the private sector).

The RE sector in the whole region faces a series of limitations that impede its development. The institutional context was adverse to the development of the RE. There was a preference for conventional energy. In the reforms of the electric sector, the RE didn't receive any special treatment. On the other hand, the RE has opportunities in the rural sector, in the market of the small users and this is in fact a sector that has been always overlooked. The RE had to develop in an adverse environment, and in a new and fast-changing context.

Funds for Social Investment were created for the rural electrification. These funds should be financed partly with the resources of the privatization, multilateral resources, etc. But the fiscal deficit was so big that the Central American Countries used the entirety of the resources of the privatization of the electric sector to cover other needs.

It is in this atmosphere of markets in transition that BUN-CA finds its work place. The FOCER project is formulated to be carried out in the 7 countries of the region, with 7 different realities. They faced two adverse aspects: a) The environmental considerations were not clearly considered in the energy sector; and b) The RE for isolated systems were seen more likely as a social responsibility, not as a necessity for the sustainable development.

The Program FOCER has triggered a process in the Central American Region. Although the barriers have not been removed in their entirety, there is well defined direction for the RE at the end of this project.

4.2 BUN-CA CONTEXT

In 1994, the US-ECRE (US Export Council for RE), through IFREE, with funding of the USAID, launched a project to promote the electricity generation with RE in Central America (except Belize) where BUN-CA acted as the executing agency. An important result of this project is that it enlightened the way to work in CA.

For the development of the FOCER Project, a PDF-A was developed in the second half of 1998 and the first of 1999. The FOCER project (a MSP) was approved in December of 1999.

In December 1999, and in January and February 2000, adjustments were made to the project. The previous work that BUN-CA had with the Small Grants Program in Costa Rica, gave them the initial push on how to work successfully with UNDP-GEF.

4.3 UNDP CONTEXT

In the operational program #6 of the GEF, before FOCER, there was a single project in Region (Wind Project in Panama). FOCER is then the first Medium Size Project carried out by a NGO based in Costa Rica and of regional coverage.

The UNDP office in CR was the focal point. The UNDP officers recognized that they had never made an Medium Size Project of Regional character, with NGO execution. The only thing available at the beginning of FOCER was a newly released Manual of NGO Execution, but they had never approached such a project.

4.4 GEF MANDATE AND GOVERNMENT PRIORITIES

This project is also in consistent with GEF Operational Program 6: Promoting the adoption of renewable energy by removing barriers and reducing implementation costs.

In all the Central American countries the environmental issues and the sustainable development are national priorities. Regarding the energy and environmental problems, the regional Governments recognize the importance of RE from two perspectives: a) Rural electrification and b) GHG (for their association with RE). The governmental agencies requested information on RE projects to look for funds in the UNFCC meetings. This was valuable input to the First National Communications that the Central American countries submitted to the UNFCC Secretary in the years 1999 -2001.

The problems then were not only of lack of knowledge on RE, but of its implementation process. These difficulties were at regional level and therefore, demonstrative experiences in several technologies were necessary. Also, it was necessary to rise awareness in the governmental and public sectors about RE and environment, as well as identifying and removing barriers that impede the RE development. To another larger scale, other initiatives outside of the context of the FOCER were also ahead (one of them for example, is the Tejona Wind Farm in Costa Rica where GEF supported the project with US\$3.3 million¹⁰ and more recently, a new wind farm currently in development by EDON (Netherlands) and ICE, CR).

¹⁰ GEF (1994) Costa Rica – Tejona Wind Power Project – Project Document. Washington

As a result of the project, other programs of GEF in the OP#6 in Central America have also benefited. FOCER has been in closer contact with the Energy and Climate Change Programme for Latin America and the Caribbean (PECC). FOCER has also collaborated with 8 PDF-B's in renewable energy (OP#6) at regional and national level (in particular, PDF-B National off-grid Electrification Programme based on Renewable Energy, CR).

4.5 IDENTIFICATION OF ENERGY PROJECTS

The energy projects were selected using criteria they had to fulfill. FOCER developed the criteria in working meetings between UNDP-CR and BUN-CA, prior to the beginning of this project¹¹. Eleven selection criteria were developed and they consider issues like:

- Renewable energy and energy efficiency projects requiring feasibility studies
- Productive projects (income generation) and after the action of the project, financially self-sufficient
- Production of environmental benefits (reduction of GHG emissions) and be related with the national development objectives, among others.
- Projects that allow the linkage between the energy users necessities, the financial sector and the RE equipment suppliers in the whole region
- Projects promoting following RE technologies: solar thermal applications, photovoltaics, micro hydro, wind power, biodigestors and biomass.
- Projects promoting energy efficiency when substituting fossil fuels and pollution plenty energy sources (like combustion of tires) with RE
- Projects promoting the most appropriate technology under local conditions: low environmental impact, final user cost and efficiency
- RE and Energy Efficiency projects hindered by barriers
- Alternative projects with baseline benefiting the global environment
- Projects with possible co-financing or counterpart sources applicable to the baseline activities as well as to the incremental cost
- Projects with the commitment of the project proponent (or developer) to further implementation.

The process of selection of the projects was also very thorough. TOR were developed for the demonstrative projects for the different technologies¹². FOCER invited all possible stakeholders of the 7 countries to submit project proposals. They considered more than 120 proposals. 80 of them were discarded (they demanded a lot of money, for example). Finally, using the previous developed criteria, 8 demonstrative projects and 13 business plans were selected.

Operatively, the project selection was transparent. Meetings were celebrated in each country where the proponents presented the projects to a Selection Committee integrated by the local representative of BUN-CA, one BUN-CA officer of the headquarters and the Environmental Project Officer of each UNDP country office.

¹¹ Internal Memorandum of BUN-CA to UNDP/GEF, November 3, 1998.

¹² UNDP (Apr-00) Documento de Proyecto de Tamaño Mediano - Spanish Version

4.6 STATEMENT OF PROJECT OBJECTIVES AND OUTPUTS

The project defined a main objective and a set of specific objectives (See Section 1). The objectives of the FOCER project were then properly defined and the approaches to address them proved to be appropriate.

The developed indicators were ¹³:

- CO₂ emissions
- The amount of people having access to electricity
- More RE projects are being developed
- Local communities, financial institutions, governments, international development and cooperation agencies, NGOs and private entrepreneurs invest in small-scale renewable energy

The CO₂ indicator (emissions reduction) considers the reductions of emissions due to the substitution of fossil fuels for electric power generation with RE. This issue will be discussed later on (Sec. 6.9).

For the project outcomes (See Sec. 2), the developed indicators were:

- Eight (8) demonstration projects that are operational and function as demonstration sites (Map of FOCER's projects, See Annex 12.2)
- Availability and accessibility to RE investment capital
- Local stakeholders involved in RE development
- Regional RE activities and number of regional RE enterprises operational
- RE inclusions in national/regional development and/or environment plans
- Number of regional RE projects that are being developed

The objectives and outputs of the project were stated explicitly with verifiable terms and observable indicators. This set of indicators is quantitatively simple to verify. Qualitative aspects of the project will be considered later on.

4.7 ARTICULATION BETWEEN OBJECTIVES, OUTPUTS AND INPUTS

The project cycle for the energy sector is in general very well established. In the different stages of the development of a project, outputs of one stage constitute the input for the next one. In this respect there is a logical project sequence in FOCER and indeed, objectives, output and inputs are well articulated. A very important issue is the fact that the projects were sized in accordance with the local capabilities. The objectives of the project were achievable and were in fact, achieved.

4.8 WORK-PLAN AND FURTHER REVISIONS

BUN-CA organized a detailed and comprehensive work-plan¹⁴. For the follow up of the project and its execution control, BUN-CA organized a Technical Committee. The Committee met each 2 weeks. The

¹³ UNDP (Apr-00) Medium Size Project - Brief

¹⁴ BUN-CA (May-00) Working Plan - May 2000 - December 2001

work-plan was reviewed and adjusted in accordance with the project needs, at least in two occasions^{15, 16}.

These changes were due to some projects' delays and also due technology changes. For example, in the Tres Valles cogeneration project in Honduras, the Business Plan of October 2001 considered a boiler operating at 600 psig¹⁷. Then the boiler was changed to one operating at 900 psig and the one adopted at the end operates at 950 psig. The third version of the Business Plan is almost finished and will be handed by July 2002.

Another important point was that arose difficulties were promptly discussed and solved in a special session of the Technical Committee.

5 PROJECT IMPLEMENTATION

For the execution of FOCER, BUN-CA is the executive agency, responsible for its management and project development. UNDP is the implementing agency. UNDP will monitor the progress of the initiative by means of Progress Reports prepared by BUN-CA.

5.1 OPERATIONAL MANAGEMENT

The project established a PMU (Programme Management Unit) to manage the implementation process and provide technical inputs related to the implementation of the proposed activities. The PMU was located in Costa Rica and worked closely with the Costa Rican UNDP office for administration of the initiative as well as with local UNDP representations in the other six countries for implementation of the work plan.

A Project Manager was responsible for the management of the Initiative on a day-to-day basis together with a part-time Operations Directors. Both were from BUN-CA.

The initiative has been closely monitored in accordance with UNDP established procedures. UNDP Costa Rica has provided ongoing performance monitoring. Tri-Partite Reviews (TPRs) were scheduled to be held every six months. The evaluator received was informed only two have been held and received information on the BUN-CA presentation for the Second TPR carried out on November, 2001. A Project Final Report will be prepared for consideration at the Final TPR Review Meeting.

The execution of the project was assigned by BUN-CA to a Direction Unit, composed by the Regional Director of BUN-CA and two Program Officers (one administrator and one technician). To facilitate the process in the different countries, 6 national coordinators were hired, one for each country (El Salvador, Guatemala, Honduras, Nicaragua, Panama and Belize). For the personnel selection TOR were prepared.

The structure of the organization is very simple and operative (see next figure). Technical and administrative officers depend directly from the Regional Director, as well as the Operations Director who manages and control the execution of the project. Consultants are hired for specific project tasks.

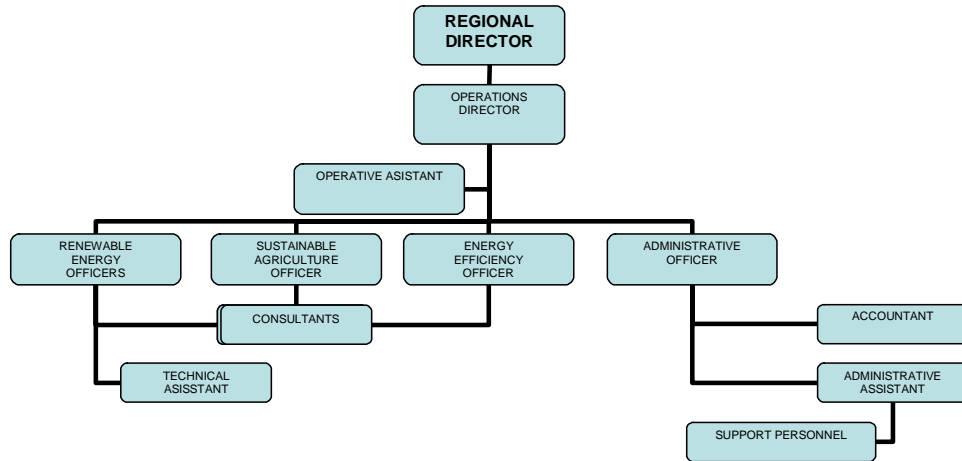
¹⁵ BUN-CA (January-01) Working Plan - January 2001 - February 2002

¹⁶ BUN-CA (November -01) Working Plan - November 2001 - February 2002

¹⁷ psig: pounds per square inch gauge (pressure unit)

In FOCER, a GPO was assigned by UNDP to the project and 6 national coordinators acted in each country.

Figure 1. Organizational diagram of BUN-CA



5.2 SCHEDULING AND ACTUAL IMPLEMENTATION OF ACTIVITIES

The project started operations in March 1, 2000 but some activities started prior to that date. The project became operational in June 1, 2000. The project is scheduled to finish in August 31, 2002.

In this project, the results depend on the project management of BUN-CA, and on the timely and good delivery of inputs by each stakeholder. The initial project schedule is simple and global (See Table 1)¹⁸.

Table 1. Implementation work plan

INITIAL DURATION OF PROJECT 24 MONTHS									
#	ACTIVITIES	PROJECT QUARTERS							
		I	II	III	IV	V	VI	VII	VIII
1	Replicable Demonstration Projects								
2	Feasibility Studies for Project Financing								
3	Strengthening Regional Capacity								
4	Facilitating Availability & Access to Financing								
5	Coordination for Dissemination and Replicability								
6	Integrating RE in Regional Policy								

BUN-CA detailed the activities and organized an initial comprehensive workplan plenty of information for each one of the 6 activities in Table 1, for each country and specific project. The workplan dates

¹⁸ UNDP(Apr-00) Medium Size Project – Brief – page 15

each activity/project element to be carried out; to be supplied or to be received (for example, stakeholders reports) (See Table 2)^{19,20}.

This table shows careful planning: Specific activities, preparation of budget and timeline for the project, input delivery and reporting by each stakeholder, information exchange, installation of the equipment, workshops and visits by BUN-CA to the stakeholder.

The workplan tables in full extension cover also the other 4 activities: Feasibility studies, strengthening regional capacity, financing and dissemination of information. Integrating RE in the Regional Policy is an on-going activity considered more specifically in the revisions of this workplan (for instance in this particular reference²¹).

For the Internal Control of the Project Activities and its execution control, BUN-CA organized a Technical Committee. The Committee met every 2 weeks. The work-plan was reviewed and adjusted in accordance to the project needs, at least in two occasions^{22,23}. The BUN-CA managers reacted promptly and with responsiveness to significant conditions changes in the environment in which the project functioned.

Table 2. Partial view of the workplan - For Activity 1 (Replicable Demonstration Projects) year 2000

Act.1: Proyectos Demostrativos		ANO 2000									
País	Proyecto	3	4	5	6	7	8	9	10	11	12
Honduras	SEDES			1st visit		Firma	pre. & crono	2nd visit		Inter cambio	1st report
Nicaragua	TecnoSolucion / Clinica			1st visit, firma		pre. & crono		sistema instal.	informe final		
Nicaragua	FUNPROTECA			1st visit, firma		pre. & crono			1st report		Taller
Nicaragua	ATDER-BL, Matagalpa			1st visit, firma		pre. & crono			1st report	Inter cambio	
Costa Rica	Fundación Tuva					Firma	pre. & crono				1st report
Costa Rica	CoopeUnioro			Firma			1st visit			2nd visit	
Panama	ANCON				1st visit	Firma	pre. & crono	2nd visit		1st report	

Firma' se refiere a la firma del acuerdo entre el proyecto y BUN-CA
Pre. & crono: Entrega de presupuesto y cronograma por el proyecto a BUN-CA

Timely and good delivery of inputs by each stakeholder deserves comments. In the execution of a project like this, with so many actors and inputs, different inconveniences arose. They were properly corrected.

FOCER has been efficient in the execution of expenses. Project budget was executed totally (See Annex 12.3) and according to the external auditors, fully in accordance with project needs and following UNDP procedures (See 5.5.1).

¹⁹ Plan de Trabajo – Focer.xls

²⁰ BUN-CA (May-00) Working Plan - May 2000 - December 2001

²¹ BUN-CA (Jan -01) Working Plan - January 2001 - February 2002

²² BUN-CA (January-01) Working Plan - January 2001 - February 2002

²³ BUN-CA (November -01) Working Plan - November 2001 - February 2002

It can be affirmed that this project was very well organized, well supervised internally and had all the administrative elements that assured the successful execution of the planned activities and the achievement of the foreseen results.

In connection with the results, there are necessary some observations of qualitative nature (See Section 6.1).

5.3 FULFILLING OF THE SUCCESS CRITERIA

As outlined in the project document, the 8 project outcomes and their respective success criteria are:

- Eight (8) demonstration projects that are operational and function as demonstration sites
- Availability and accessibility to RE investment capital
- Local stakeholders involved in RE development
- Regional RE activities and number of regional RE enterprises operational
- RE inclusions in national/regional development and/or environment plans
- Number of regional RE projects that are being developed

All these criteria have been achieved and further detail is given in Section 6.1.

5.4 PROGRESS REPORTS

FOCER delivered 4 Progress Reports to UNDP, every six months. The first one is dated June 30, 2000 and the last one January 2002^{24,25,26,27}. The content of the reports are: Relevant facts during the period covered by the report, Results and Activities addressed to each one of the 8 Results of the Project, General Matters and Annexes. These reports demonstrate a comprehensive overview of the project's progress and demonstrate a continuous supervision of the execution of the project.

In addition, quarterly financial reports were delivered by BUN-CA to UNDP-CR covering all issues related to the development of FOCER.

5.5 MONITORING OF THE PROJECT

The project underwent a strict internal monitoring of activities and results as a consequence of the managerial procedures introduced by BUN-CA. In addition to this internal process, the project was reviewed according to GEF M&E procedures in June 2001 and underwent a TPR in October 31, 2000 and in November 7, 2001. The project also underwent external financial auditing.

5.5.1 Financial External Auditing

²⁴ BUN-CA (Jul-00) Primer Informe de Avance - Enero 1 - Junio 30, 2000

²⁵ BUN-CA (Jan-01) Segundo Informe de Avance - Julio 1 - Diciembre 31, 2000

²⁶ BUN-CA (Jul-01) Tercer Informe de Avance - Enero 1 - Junio 30, 2001

²⁷ BUN-CA (Jan-02) Cuarto Informe de Avance - Julio 1 - Diciembre 31, 2001

The execution of FOCER by BUN-CA was subject of external audits that covered Financial aspects, Execution and Administrative issues.

The audit was conducted according to the following regulations:

- Audit carried out according to the financial regulations, practices and procedures of UNDP
- The clauses and conditions of the document of the project, including achievements of foreseen products and dispositions on the administration and implementation of projects.

The main objectives of the audits were:

- To determine if the expenses were made according to the activities and budgets enunciated in the project document
- To check if there was accountable information supporting the expenses
- To verify if the financial reports were presented correctly and according to the dispositions emitted by the UNDP
- To verify if BUN-CA has the appropriate administrative structure, the accounting system and internal control procedures appropriate and adapted for the project
- To determine if the acquisition of, use and control of the fungible equipment of the project has been made in rule with UNDP requirements
- To verify if the operative and financial information related to the execution of the project is reliable
- To determine if the Combined Report of Expenses at December 31, 2000 (and the following year 2001) show the payments in conformity to accounting bases established by the UNDP.

The conclusion of the first audit that covered the period Beginning - up to December 31, 2000 is that BUN-CA put in practice internal management procedures of the activities, and of internal and operative control of the project, so that the results and foreseen activities were accomplished satisfactorily and within reasonable terms²⁸. There were 6 accounting observations included in the report.

In the auditor's second report that covered the period until December of 2001, the 6 observations of accounting type were corrected satisfactorily. The report is again very satisfactory²⁹.

5.5.2 Other monitoring issues

During FOCER activities, governmental energy and environmental agencies were present there. These agencies always got the most recent information on the development of the project directly from FOCER. In that respect, the regional governments possibly never had the need to request information on the development of the project, with exception of El Salvador. The project provided good information channels to the governmental agencies on the development of FOCER.

5.6 ADVANTAGES AND INCONVENIENCES OF NGO EXECUTION

²⁸ Sossa Carrillo and Partners, Public Accountants (30 Mar-01) Informe sobre los resultados obtenidos en la auditoría financiera, de gestión y de cumplimiento del proyecto "Creación y fortalecimiento de la capacidad de desarrollo sostenible de la energía renovable en América Central, RLA/00/G35/ 1st Report. San José, Costa Rica

²⁹ Sossa Carrillo and Partners, Public Accountants (15 Apr-02) Informe sobre los resultados obtenidos en la auditoría financiera, de gestión y de cumplimiento del proyecto "Creación y fortalecimiento de la capacidad de desarrollo sostenible de la energía renovable en América Central, RLA/00/G35/ 2nd Report San José, Costa Rica

NGO project execution offers a series of advantages: The final balance is positive when the NGO is neutral to governmental institutions and stakeholders because it does not affect individual interests. It is essential that the NGO keeps a good public relations agenda in order to facilitate the development of the project.

In relation with UNDP, it is essential that the NGO possesses a high management capacity to follow all its procedures.

The major risk is associated to the expectations the project creates in the stakeholder group. It is important not to oversell the project.

5.7 SYNERGY WITH FENERCA

BUN-CA has established contact with different and numerous organizations and NGOs in several countries of the region. But a strategic alliance that was important for FOCER was the one established with the program FENERCA (Financiamiento de Empresas de Energía Renovable en América Central: Financing of Renewable Energy Companies Central America), a regional program funded by the USAID. It focuses its activities on the development of financial mechanisms for renewable energy projects.

The synergy with FENERCA comes to place because the two projects are complementary. FENERCA needed projects and project documents while FOCER required funds.

The results of the cooperation with BUN-CA were successful and presented themselves in several fields:

Training

- They produced jointly a GHG Manual³⁰ and document on Policy Barriers in Central America³¹.
- Both programs shared costs for the training workshops.

Projects

- FENERCA carried out a Market Evaluation through surveys (more than 500) to Bankers, NGOs and energy developers. FOCER facilitated the NGOs' database.
- 92 project opportunities were identified. Some of them were in very early stages of development, and therefore 40 projects were pre-selected. Finally, 20 were worked out. These projects are from several MW on, connected to grid.
- There was support of FOCER for the program FENERCA.
- At the present time, there are more projects identified than available resources from E&CO.
- E&Co has improved its understanding of the market and its contacts in the region.

³⁰ E&Co. BUN-CA. (2001) Reducción de Emisiones de Carbono: Una Guía para Empresarios de Energía Renovable. San José, Costa Rica

³¹ E&Co.BUN-CA.PA Consulting. (2001) Promoción de Energía Renovable en Centroamérica: Oportunidades para el Planteamiento de Políticas. San José, Costa Rica

Policy

- Many FENERCA projects were not advancing in the search of financing due to policy and regulatory barriers. E&Co does not work directly in policy, but FOCER does. In the particular case of Honduras, there were nearly 12 inactive PPA. Due to the FOCER activities, it was possible to activate 14 PPA. At the moment, 3 projects are being financed by E&Co.
- FENERCA and FOCER developed a policy document, result of broad discussions with the policy governmental institutions of the region.

The interaction between both programs were beneficial for the programs themselves as for the organizations.

FENERCA grew in terms of capacity building. Starting from the experience of FOCER, this project introduced local representatives to the programs FENERCA 1 and 2. E&Co also understood how to establish a Project Portfolio and how to speak to the new actors (micro-financing). E&Co had a lack of regional experience on these matters.

FOCER strengthened its capacity building and mobilized fresh funds for renewable energy projects. FOCER behaved like a project incubator for FENERCA. The projects have developed so much that they have entered the pipeline of the FENERCA 2. FOCER also developed the capacity to accompany projects and to transform its Business Plans in documents suitable for bank funding.

With the program FENERCA, BUN-CA improved the project analysis in general, in such a way that they already have better project evaluation criteria.

Another important aspect was the projection of both organizations in the region, as complementary resources for the development of Renewable Energy Projects.

Keys for the success of the combined work between both programs on the part of BUN-CA, were that this organization is very systematic and makes a good follow-up of the projects.

For future projects it is convenient to take into account:

- The local representatives in the countries do not respond in equal manner.
- In an ideal world, FOCER would have its own resources and a financing window
- E&Co would be interested in co-financing projects with BUN-CA.

6 PROJECT RESULTS

6.1 SUMMARY OF FOCER RESULTS

Table 3 summarizes the results of FOCER.

Table 3. FOCER Summary

FOCER SUMMARY

Expected results	Indicators	Achieved results
Replicable Experiences starting from 8 demonstrative projects	Number of realized projects and in operation working as demonstrative places	8 finished demonstrative projects (SEDES, Tuva, CoopeUnioro, Ademipp, Ancon, Adter-BL, Funproteca, Bilwaskarma) All operate as demonstrative sites in Panama, Costa Rica, Nicaragua and Honduras. All have concluded their installation, offered and/or received technical training. Installed capacity of 9.7 kW, with some 300 families as beneficiaries. Additional Co-financing of \$81,390 to the \$57,000 of UNDP/GEF (FOCER)
Plans of business for 13 projects presented to financiers	Number of concluded studies of feasibility of Business Plans delivered to financial entities Number of projects that have obtained resources	Developed studies as support to projects: 5 Prefeasibility Studies (CoopeSantos, PLC, La Castalia, El Rodeo, Sarteneja) 5 Feasibility Studies (Yojoa, Cececapa, Ucraprobex, MARN/CNC, Three Valleys) 9 Business Plan (Ademipp, Adter, Ancon, Yojoa, FSolar, Tres Valles, Cececapa , El Rodeo, La Castalia) 4 projects could not be executed by institutional problems on behalf of the developer (El Riachuelo, Trojes, La Magdalena, La Cabaña). FOCER tried for different means to overcome the institutional difficulties of these projects but they were outside of its competence. FOCER exceeded the number of committed projects although these 4 were not carried out. Additional Co-financing of \$189,898 to the \$125,000 of PNUD/GEF (FOCER) Foreseen installation of more than 20 MW, representing an investment of US\$20 millions
Established novel financial mechanisms	Number of financial entities interested in renewable energy projects More investment capital of BCIE and other financial organizations	Alliance with the Regional Program " <i>Financing of Renewable Energy Entrepreneurs in Central America</i> " (FENERCA), executed by E&Co and BUN-CA with funds of USAID: It embraces 5 countries (El Salvador, Guatemala, Honduras, Nicaragua and Panama) 9 projects of FOCER are receiving additional support in the preparation of their business plans Workshops on Financial Engineering co-organized with FENERCA Co-financing of execution of US \$3.15 millions Facilitation of

Deleted: ¶

Expected results	Indicators	Achieved results
		the financing of one project in Honduras by means of the BCIE, Bank Atlantis for \$750.000
A replicable program of training designed and implemented	Number and type of events organized in each country. Developed Training Manuals and number of copies distributed in the region.	Training Program at regional, national and communal level, through: 6 national seminars 8 technical workshops starting from demonstrative projects, including exchange of regional experiences 10 workshops on project financing More than 10,000 training hour-person
Strengthened regional Organizations and new promoted potential companies	An active network of financial entities, project developers, technicians and suppliers Number of copies of the bulletin distributed Number of new projects being developed.	Electronic and printed distribution of 11 editions of the bi-monthly bulletin "Enfoque Renovable" More than 700 contacts in the database, at regional level in the 7 countries and to outside of the region Design and development of the Web page of FOCER, with technical information and experiences in the page of BUN-CA (www.bun-ca.org) Elaboration and distribution of didactic material on renewable energy (poster, brochure, portfolio) Coordination with 8 UNDP/GEF PDF-B's in renewable energy (OP#6) at national and regional level
Increased awareness rising in government's officials and more integration of the RE in national policy	Number of countries in those renewable energy is being included in the national policies	Permanent contacts with political authorities in the 7 countries of Central America (<i>Guatemala</i> : DE, MEM, MARN. <i>Honduras</i> : SERNA, DE. <i>El Salvador</i> : DGEE, MARN. <i>Nicaragua</i> : CNE. <i>Panama</i> : COPE. <i>Costa Rica</i> : DSE, CONACE, CNFL, ICE, MINAE. <i>Belize</i> : Ministry of Energy) Documentation and analysis of the policy barriers that RE faces in 5 countries Realization of Central American Meeting of Directors of Energy to analyze policy barriers that the Renewable Energy faces Support to UNDP and SERNA in Honduras, for discussion of the Renewable Energy Law Support to the Law of Incentives to the Renewable Energy in Guatemala The participation of the Energy Ministries of the region, or their representatives, in the Regional Fair of Renewable Energy in Honduras, was achieved
Local institutions qualified to develop more renewable energy projects	Number of NGOs and trained companies New induced and developed projects	Preparation of 28 publications: 7 guides for development of Renewable Energy (1 for country) 5 Technical booklets on the different types of the more utilized technologies in Central America (Hydro, Biomass, PV, Thermal Solar, Wind Energy) 1 Manual of Managerial Models for Isolated Energy Services in Central America 6 Proceedings of National Seminars 1 policy document on the Promotion of Renewable Energy in Central America (5 countries) 8 Case studies on Demonstrative Projects

Expected results	Indicators	Achieved results
New investment funds mobilized toward RE technologies	Number of sources of regional and local funds Amount of available funds for RE Number of financed projects.	Presentation of the Project Portfolio to financial entities, such as: E+Co: 9 projects, investment foreseen by \$19 millions BCIE: 20 projects, \$25 millions Inter-American Development Bank (IDB): 4 projects, \$14 millions Solar Development Group: 8 companies, \$2.2 millions CASEIF Corporation: 3 projects, \$2 millions Program of Energy and Climatic Change - PECC (UNDP-Costa Rica) 20 projects, \$25 millions
Mitigation of 90,000 tons of CO2 in 20 years		The implementation of the feasible projects, would result in the mitigation of 20,000 tons of CO2 per year, that would represent 200,000 in 10 years.

The results are very good: they are there to be seen, they are easily verifiable. In terms of achieved results, FOCER has exceeded the expectations.

6.2 COMMENTS ON THE RESULTS

In this point it is convenient to make observations related to the quality of the outcomes. The evaluator reviewed all the documentation listed in Annex 12.3.

6.2.1 Business plans

The revision of the business plans showed a project with a lack of specific information³², in other, the energy offer is oversized³³, and another has suffered a process of modifications that require a final revision³⁴.

These situations can be corrected specifically by supporting the first developer in the improvement of its BP. In the second case, the project needs better information on solar energy and an improvement of the sizing engineering methods of PV Systems. In the last case, it is necessary to supervise the quality of the final BP the company will soon deliver.

6.2.2 Published Manuals

Two reviewed manuals are a contribution to the technical literature in the region, because of their content and the quality of the contained information. They deserve to be especially mentioned.

Taller Regional de Sistemas Fotovoltaicos en Aplicaciones Domiciliarias Rurales. (Jun-01) FSOLAR, BUN-CA, NEW MEXICO STATE UNIVERSITY, SANDIA NATIONAL LABS.

³² SEDES. (Septiembre, 2001) Proyecto para el uso de Nanoturbinas Hidráulicas para la Producción de Energía Eléctrica y Motriz en fincas cafeteras. Honduras

³³ ANCON (Septiembre, 2001). Aplicación de Energía Limpia en los Centros Educativos Ambientales en Reservas Naturales de Panamá. Panamá

³⁴ Central Azucarera Tres Valles (Septiembre, 2001) Proyecto Co-generación para venta de energía a la Red. Honduras

Manual para Empresarios - Sistemas Aislados de Energía Renovable. (Aug-01) FENERCA, FOCER, E&Co and BUN-CA.

These manuals should be made more easily available to interested people in the region.

6.3 RESULTS OF SITE VISITS

Two demonstration sites were visited.

6.3.1 SEDES Project

SEDES Project develops nanoturbines for mechanical power and electricity generation. This project is developed by SEDES located in Comayagua, Honduras. The turbines developed, constructed and installed are very simple, and can be built with simple tools. The price of the system is low (around US\$300 plus peripheral installation costs).

FOCER supported the project in different ways:

- Installation of 3 turbines (CIDA of Canada supported them with the first 3 units)
- Production of the SEDES brochure (1000 units cost £6000)
- Experience-exchange with ADTER (Nicaraguan Group)
- Training at ITDG, Peru. ITDG introduced them to the Pelton turbines that would allow power generation in the kilowatt range.
- The required pipes for the installation were partially financed by FOCER.
- Training in Business Plans
- FOCER will partly finance a Pelton for demonstration.

In spite of the limited number of systems that have been installed (3 with support of FOCER), the systems have proven to be useful and met the expectations of the customers. Under present conditions, characterized by the low market prices of coffee, the potential for the installation of new devices in the short term is very limited.

6.3.2 TUVA Project

The Gaymi natives of Alto Laguna in the Peninsula of Osa, Costa Rica, have 19 PV Systems installed by ICE on February 2001. These systems consist of a 100 Wp PV module, a charge regulator, a battery of app. 120 Ah, a 400 W inverter and a set of lamps CFL of 9 W. The users were trained to use the systems.

The users have a contract with ICE and they pay a monthly rate of C1000 (ap. 3 US \$) for the electricity service.

Institutionally, there are four organizations involved in the FOCER project: Association for the Integral Development of the Guaimy Community (ADI), the TUVA Foundation, BUN-CA and ICE. ADI, TUVA and BUN-CA will settle down a trust fund. The resources of the trust fund will cover the monthly expenses of the PV systems for 48 months. ADI commits to the conservation of 28 hectares of natural forest, according to a management plan and sounder sustainable management practices originated in the community. It is expected the production of *suita* (a palm variety), seeds of native species and if

they get the authorization, forest wood residues can be sold, thus improving the revenues of the community.

This is an innovative financial mechanism, by which environmental services are exchanged by energy services (swap). This financial innovation could be applied to other projects with native populations. Locally, the natives are motivated to conserve the forest, and they receive a service that is valuable for them (illumination, radio and TV) but expensive for their income level.

6.4 RESULTS OF THE VISITS TO HIGH GOVERNMENTAL OFFICERS

As a result of two interviews with high governmental officers of ministries involved in the project, following appreciations should be taken in consideration³⁵:

- FOCER identified RE projects and provided economical and technical support
- One of the advantages of FOCER is that it has been very operative, identifying and supporting the projects, demanding timely results.
- FOCER was a very down to earth project.
- FOCER facilitated the transfer of technology
- Several project developers didn't have experience in the execution of the projects and FOCER facilitated their learning.
- The projects requiring support of the municipalities face the problem of the low municipal administration capacity.
- The private sector fears to participate in the projects because of the risks of diverse nature, the lack of capital and governmental support.

In an eventual next stage of the development of the RE in the region:

- One should work more with the municipalities in decentralization
- It would be convenient to promote the energy administration at municipal level so that each town develops its own projects
- One should continue with the training effort
- One should continue the work of barriers removal

As a summary of the second interview one can affirm that the officials of the DSE were pleased with the results of the project FOCER for its meaning as regional project, the different achievements and its contribution to the capacity-building in the region³⁶.

6.5 FACTORS AFFECTING THE PROGRESS OF THE PROJECT

The factors that facilitated the development of this project are of different nature:

- Project concept and design
 - Good knowledge of the energy, environmental problem and of the social and economic conditions of the region
 - Previous experience of BUN-CA in regional projects and with UNDP

³⁵ Interview to Patricia Panting, Minister, SERNA, Honduras – June 17, 2002

³⁶ Interview to Giovanni Castillo, DES, Subdirector and Nobeily Sánchez, DSE, Ministry for Environment and Energy, Costa Rica – May 31, 2002.

- Good preparatory work of the project
- Project management
 - Good professionals, experts of the structure of UNDP
 - Good planning, organization, management and follow-up of the project.
 - High-level of co-financing of the projects.
- Interaction with UNDP, institutions and stakeholders
 - Good interaction with UNDP: Knowledge of BUN-CA on the operation of UNDP, active participation and commitment of UNDP and their officers in the project and its results
 - Intensive project preparatory work with UNDP, other institutions and stakeholders
 - Networking with FENERCA. Complementary of the two projects and intensive coordination among FOCER and FENERCA.
 - Good contacts in the energy sectors, environment, politics and finance.

On the other hand, as can be expected in a project like FOCER, the participation of all the actors was differentiated. The stakeholders had different activities and visions of their business. It is in this respect where good project management is a necessity.

6.6 COST-EFFECTIVENESS OF FOCER OUTPUTS

FOCER consists of six activities that have been designed to remove institutional, technical, informational and financial barriers that hinder the development of small RE applications. The incremental costs matrix was designed by activity (because it is a MSP). When FOCER achievements are considered in regard to the 6 proposed activities, it is found that the estimated incremental costs were enough to develop the projects.

The project's costs baseline was US\$796.430. The incremental cost for the GEF is of US \$750.000. The project has achieved the mobilization of an additional US\$3.4 millions (See Table 4). The mix then is of US\$ (3.42+0.75) millions. The level of co-financing leverage is then of 6, which is excellent for a MSP. This level of co-financing has played a very important role in the success of the project.

Table 4. Funds mobilized by FOCER

Results	Additional Co-financing	UNDP/GEF	Comments
Replicable Experiences starting from 8 demonstrative projects	\$81,390	\$57,000	
Plans of business for 13 projects presented to financiers	\$189,898	\$125,000	Foreseen installation of more than 20 MW, representing an investment of US\$20 millions
Established novel financial mechanisms	\$3,150,000		Facilitation of the financing of 1 project in Honduras by means of the BCIE, Bank Atlantis for \$750.000
Total	\$3,421,288		

At investment level, the relationship is even bigger. Considering only the cogeneration project of Tres Valles, the value of the investment is US\$6.67 million, 9 times higher than the total of FOCER's funds. In the case of Hydro Yojoa, the investment will be of US\$785.000, while the FOCER contributions to the project were only US\$15.000.

6.7 MOBILIZATION OF NON CONVENTIONAL FUNDING RESOURCES

The project portfolio of FENERCA consists of 20 projects, of which 9 are provided by BUN-CA. There are two projects that show the way BUN-CA managed the mobilization of funds: Hydro Yojoa and TUVA Foundation.

In the case of Hydro Yojoa, BUN-CA accompanied the project in order to apply for resources in E&Co. E&Co approved US\$250.000. In the search of new and better conditions they also contacted other organizations. In BCIE, a credit line represented an initial cost of US\$20.000 for the credit analysis. In fact in the same bank, the line of credit PROMUNI (financing of projects of the private sector with benefits to the community) offered better conditions if the project promoted development. Under these conditions, this line of credit offered better terms than E&Co and as a result, the project will be entirely developed with financing of this line of the BCIE. This is in fact a result of FOCER: establish connections to look for the best financing conditions, and thus propitiate competition between financial institutions in favour of the developers.

The second project is one of innovation in financing mechanisms. The TUVA foundation supports aborigine development. In the PDF-A, the TUVA Foundation wanted additional PV Systems to the 3 they already had. The TUVA Foundation has received from BUN-CA institutional support and participation in seminars. BUN-CA will contribute US\$6000 to the establishment of a Trust Fund. With this Trust Fund the costs of 19 families' electric power service provided by the PV Systems owned by ICE (3 US\$/month/family) will be covered. The native families commits to conserve 28 hectares of forest (Forestry for Energy Swap). This project is one of intermediation (BUN-CA/FOCER → F TUVA/ICE → User).

6.8 FINANCIAL BARRIERS REMOVAL

The financial barrier removal in the development of RE projects is complex and it can take several years, even beyond the duration of a project as FOCER. The contributions of FOCER in this matter are the following:

- FOCER made small contributions to the development of the demonstrative projects as well as for the formulation of the BP.
- Thanks to its combined activity with FENERCA, FOCER facilitated resources for the projects.
- It trained and qualified the Project Developers in the formulation of BP. The formal introduction of this concept among Project Developers is essential so that the projects come down to earth.
- It was a facilitator in the search of resources for the development of RE projects. It also promoted the search for funds in institutions as important for the development of the region as BCIE (for example, in the case of Hydro Yojoa)
- It introduced the financial sector to the RE and made them aware of its importance for the sustainable development.

The work in the removal of financial barriers should continue on the part of other projects to be developed in the region

6.9 GHG EMISSIONS REDUCTION

The CO₂ indicator (emissions reduction) considers the reductions of emissions due to the substitution of fossil fuels for electric power generation with RE. For generation projects connected to the grid, the figure tCO₂/MWh ranks between 0.111 and 0.395, and is different for each country. For stand-alone projects, the common index is 0.889 tCO₂/MWh for all countries, except Nicaragua: 0.677. It is convenient to observe that for grid connected projects, the coefficient of reduction of emissions is low due to the high participation of the RE in the generation of the Central American countries (from 40% in Belize up to 99% in Costa Rica, except Nicaragua with 27%).

The implementation of the feasible projects, would result in the mitigation of 20,000 tons of CO₂ per year (precisely: 20700). This would represent approximately 200,000 in 10 years. It is important to consider that 520 tCO₂/year are from the small, non grid-interconnected projects (for example, the PV Systems projects) and 20,200 are due to the grid connected projects. Of these, the project of Tres Valles (cogeneration) represents 47% of the reduction of emissions and the hydroelectric project of Cececapa represents 28%. Both projects are located in Honduras. Regionally, 82% of the reduction of emissions is given in Honduras, 11% in Guatemala, 1.9% in El Salvador and the remaining 5% in the other countries. The project of cogeneration of Tres Valles is advanced in its development (the company is already in preparation of the bids for equipment procurement).

In this condition, the impact of the project in terms of reduction of emissions is large, because in Honduras the participation of the fossil fuels in the generation mix reaches 43% and it is the highest in the region (except Belize: 60%).

6.10 IMPLEMENTATION IMPROVEMENTS

The implementation of the project could had been enhanced in the following aspects:

- The BCIE is a decisive bank for the regional development. It had been desirable to further accompany this bank in the RE projects they are involved in.
- The case studies will be published and they are outside the TOR of the project (for the 7 studies)
- The technical information produced by FOCER is good and extensive. The run-time of the project has been very short to publish and distribute further information.
- The informational barrier is surprisingly difficult to remove. In this sense, the demonstrative projects become vital, but they are located in remote areas, and contact between them and the public is nonexistent. Although a diffusion of the accomplished goals was made, it is important to impact in the formation of future engineers since they are the ones who will be involved in the future energy development of the countries. In this sense an interaction with the university sector had been convenient.

In opinion of some interviewed project developers, FOCER could have improved in:

- Dedicating more time and effort to remove barriers of different nature.
- Providing better information to the institutions (for example, to DECA: Direction of Evaluation and Environmental Control, in Honduras)
- Strengthening the interaction with the university sector

The project developers and other stakeholders were full of praise for FOCER, with expressions like:

"We could not have made the project without the FOCER"

"The support was decisive to finish the feasibility study "

7 SUSTAINABILITY

Keeping in mind that the development of the RE and the sustainable development are of high-priority in the region, the support given to FOCER was valuable for the success of the project. For the endorsement of the project, FOCER had regional support of the CCAD (Central American Commission for Environment and Development). FOCER had the best contacts at ministerial level, in the Energy and Environment ministries that facilitated the development of the project and the national participation of governmental actors and stakeholders.

A clear sample of the support at the highest regional level was the participation of the energy ministers or its delegates from all countries to the "Regional Fair of Renewable Energy", held in San Pedro Sula in February 2001. There, all Heads of the Energy Divisions (6) met and discussed about RE and a regional policy document on San Jose, Costa Rica in September, 2001.³⁷

The result of these activities is given in the Table 3, point 6. Of special importance are the Support to UNDP and SERNA in Honduras, for discussion of the Renewable Energy Law, and to the Law of Incentives to the Renewable Energy in Guatemala.

Keeping in mind the objectives of FOCER, the energy and environment ministries were the government institutions to be contacted in each country. FOCER has a positive impact on the concerned institutions, because it contributed to the capacity building of those institutions, strengthened their participation in energy and environmental politics discussions, promoted the development of laws and incentives for renewable energy, promoted the regional integration of these

³⁷ E&Co.BUN-CA.PA Consulting. (2001) Promoción de Energía Renovable en Centroamérica: Oportunidades para el Planteamiento de Políticas. San Jose, Costa Rica

government institutions through the training of their technicians and the regional discussions about politics.

In connection with the demonstrative projects, their sustainability depends on the economic revenues that the beneficiaries derive. In the case of central power stations like Hydro Yojoa, the project closes financially and the financial sustainability of the project is assured by the PPA. But in the case of projects like SEDES, the depression of the coffee prices in the current moment doesn't offer bigger perspectives to their activities.

Once FOCER concludes, one expects that the policy exchange among the policy makers continues. This derives from the technological developments of the RE, which will reduce their costs becoming more attractive, the global necessity for its use and the presence of other mechanisms that promote its introduction (as the CDM). In this way, the RE and the problems that have to be confronted to continue its introduction in Central America, will be more present in the policy makers agenda, and the exchange and discussion of policies will be held in other environments of the regional action.

The produced technical manuals should become accessible to the users via CD's or magnetic media, and through the Web. These are low cost means that allow quick access to the information. In this sense, the Web offers enormous possibilities of non-present training with all its advantages:

- Lower Cost
- Flexible Scheduling
- More Time to Assimilate Content
- May be Locally Supported
- Complemented with Field Training

One of the keys for the success of FOCER was that it did not enter in competition with any of the stakeholders, neither with any agency or institution, because it acted as a facilitating institution, filling the gaps in the working relations between different institutions, and promoting the role and importance of their stakeholders.

BUN-CA depends on the success of the execution of its projects. With FOCER, BUN-CA has done a good job that allowed it to come even closer to financial and governmental institutions, international agencies and project developers in the region.

As a result of FOCER it is expected that BUN-CA continues with new projects in the region.

8 FINDINGS

In this project a series of factors have been given, which have finally led to a series of successful results (see Section 10). The project has been favored because the environmental and energy problem facilitates the integration at a technical, cultural and political level. The local participation (the use of local qualified personnel) and the active participation of the representatives of UNDP are also factors that facilitated the project.

The profound knowledge of the region and of their problems on the part of UNDP-GEF and BUN-CA allowed them to size the results according to the regional capacities, and foresee achievable results with the allocated resources and available project duration.

FOCER has contributed to develop demonstrative projects that show that RE technologies are technically and operatively viable. Though it has contributed to reduce the economic barrier for the demonstration of these technologies, it has pointed the direction project developers should take to implement their projects. The developer understood very soon that FOCER was only able to provide partial project financing.

Therefore, FOCER is a valuable project for the region, since it has demonstrated that it is possible to produce results with the integration of national efforts and with a focal point directed to the introduction of the RE as a mechanism for the sustainable development.

A MSP can not remove all the barriers the region is facing. In a Full Size Project issues like policy, technical specifications for different RE technologies and capacity building, among others, could have been approached.

The GHG problematic has not been considered in the desired extent. But this can be understood since the emissions in the region are not high due to high participation of the RE in the electric power generation. This participation should be maintained and, even more, increased to higher levels.

The sustainability of the demonstrative projects resides in the economic success of the projects. No detailed analysis on this topic is presented in FOCER's available documentation.

One of the several means to judge the GEF results resides in its ability to mobilize co-financing resources, like in the quantity that have been achieved with FOCER.

FOCER has triggered an integration process among the Central American countries around the sustainable development via RE. The barriers have been partially removed, and it has been demonstrated that the introduction of new concepts and mechanisms is possible in a region like Central America.

The most important contribution of this UNDP-GEF project is not in the magnitude of the results themselves, but in the direction of the barriers removal process.

9 RECOMMENDATIONS

Considering the results of FOCER and the strength attained by BUN-CA, the formulation and development of a second phase is recommended. This new phase could consider the following aspects:

- Decentralized rural electrification. How electrification is a factor of development in rural areas and how it becomes sustainable in the economic context.
- Development of a market for RE projects. How to establishing a market for RE.
- Policy development with the congresses and regulation commissions in each nation, but with coherence of policies at regional level
- Removal of barriers. The barriers still exist, and RE projects, small or medium size, must take the same administrative steps that the big development projects. It would be convenient to develop a fast track for them and to establish a Trust Fund to facilitate the secure, transparent and agile financing of the RE projects.
- Introduction of the CDM as a financing mechanism for RE projects (although the CDM is not considered part of the GEF activities).

Thanks to FOCER, BUN-CA has been qualified as a competent NGO that could be executing agency again when implementing regional projects on themes related to RE and EE.

To the interior of UNDP, it is convenient to determine the factors that allowed their prompt and effective participation in a MSP of regional character and of NGO execution. This can only be established by the actors of UNDP in each country together with BUN-CA. But the external evaluator has found in the UNDP Environmental Project Officers a high-level of commitment and identity with the project.

10 LESSONS LEARNED USEFUL FOR OTHER PROJECTS

This project shows clearly how a regional MSP can be effectively executed for UNDP-GEF on the part of a NGO. FOCER reaffirms that the keys of success are:

- Good preparation work. The previous work is always rewarding.
- Good knowledge of the project scenario and its antecedents.
- Selection and participation of experts of the region as country representatives of the project.
- Good project formulation, including results sized with the resources, the project's time schedule, the local management capacities and the capacities of the stakeholders and the NGO.
- Strict control in the execution and supervision
- Quick reaction to changes in the development of the project
- Good interaction with UNDP and the government representatives of the countries.

Another factor of success has been the way the NGO has addressed the project and its objectives. Very often when engineers develop small RE projects they tend to underestimate the management and overemphasize the engineering work. This project shows how the project management and the work of a good coordinated team of administrators was decisive to reach the desired results.

The active linking of the government's actors as well as the participation of the Project Officers of UNDP is a factor to success. This high level of engagement has been reached inviting them to participate in the local and regional activities of the project. This is a management and project marketing strategy beneficial to the project's success. The experience of FOCER as a regional project should be evaluated in the light of UNDP and its experience could be useful for other regional projects.

Networking with other institutions with complementary activities can be very positive. The cooperation between FOCER and a NGO like E&Co has been decisive in the project. But it has been important that the program FENERCA of E&Co was developed in parallel with FOCER. So the integration of two complementary projects was given inside the same NGO: BUN-CA.

Working in a regional atmosphere requires of a precise determination of the common aspects that define a region. Not always the conditions given in Region like Central America can be found in other regions. For the purpose of projects like FOCER, the geographical or cultural identity is not enough. In projects of this nature an identity in environmental and energy policy objectives, and the willingness of the governments to trace the road under the action of a regional co-operation project is required.

Through the program FOCER, UNDP-GEF has contributed to build regional identity around the sustainable development and the RE.

11 ACKNOWLEDGEMENTS

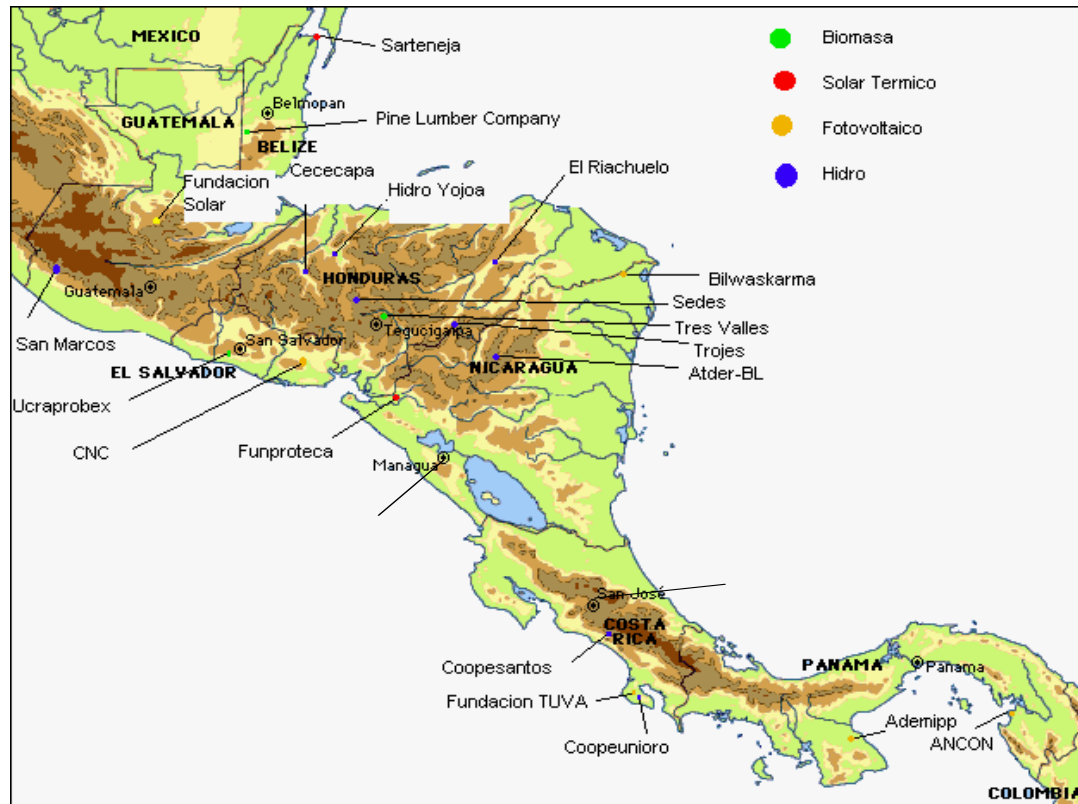
The consultant thanks Mrs. C. Vallee of GEF, Mr. Marty, Mr. Carazo and Mr. Koefoed-Hansen, all of UNDP, Mr. Blanco, Mr. Umaña and Mr. Masis, and Mrs. Fajardo, all of BUN-CA, for all the support received during this mission and their comments to the draft version of this report.

12 ANNEXES

12.1 CD WITH THE REPORT

12.2 MAP OF CENTRAL AMERICA WITH FOCER PROJECT

Figure 2. Map of Central America with FOCER



12.3 PROJECT BUDGET

RLA99/G35: TOTAL BUDGET (US\$)

The sum of US\$761,430 will be provided for the actual investment for development of the 21 renewable energy projects by the project developers
Another US\$35,000 will be provided for training activities by Government agencies in the context of their rural development / environmental objectives
The UNDP/GEF input to the project is US\$750,000 divided as follows.

Budget Line	Component	G E F	Year 2000 TOTAL	Year 2001 TOTAL	Execution Processed by Evaluator	
					Total	%
	Preparation: PDF- A	\$25,000.00				
010	Personnel					
011	International Consultants					
011.01	In-country representatives (5 technical consultants)	\$85,000.00	\$ 34,000.00	\$ 51,000.00	\$ 85,000.00	100.00%
011.99	Line Total	\$85,000.00	\$ 34,000.00	\$ 51,000.00		
013	Administrative Support Staff					
013.01	Administrative Officer	\$15,600.00	\$ 7,800.00	\$ 7,800.00		
013.02	Secretary / Aide accountant	\$13,200.00	\$ 6,600.00	\$ 6,600.00		
013.03	Office Clerk	\$9,600.00	\$ 4,800.00	\$ 4,800.00		
013.04	Legal Social Benefits in Costa Rica	\$20,230.00	\$ 10,115.00	\$ 10,115.00		
013.99	Line Total	\$58,630.00	\$ 29,315.00	\$ 29,315.00	\$ 58,630.00	100.00%
015	Monitoring and Evaluation					
015.01	Evaluation missions / Tripartite reviews	\$17,475.00	\$ 8,737.50	\$ 8,737.50	\$ 17,475.00	100.00%
015.99	Line Total	\$17,475.00	\$ 8,737.50	\$ 8,737.50		
016	Mission Costs					
016.01	Travel, DSA, airport taxes	\$74,380.00	\$ 37,190.00	\$ 37,190.00		
016.99	Line Total	\$74,380.00	\$ 37,190.00	\$ 37,190.00	\$ 74,380.00	100.00%
017	National Consultants					
017.01	Programme Manager	\$60,000.00	\$ 30,000.00	\$ 30,000.00		
017.02	Operations Director	\$24,000.00	\$ 12,000.00	\$ 12,000.00		
017.03	Journalist / Reporter	\$3,600.00	\$ 1,800.00	\$ 1,800.00		
017.99	Line Total	\$87,600.00	\$ 43,800.00	\$ 43,800.00	\$ 87,600.00	100.00%
019	PERSONNEL TOTAL	\$323,085.00	\$ 153,042.50	\$ 170,042.50		
020	Contracts					
020.01	Foreign Technical Support (Detailed feasibility studies)	\$136,000.00	\$ 136,000.00			
020.02	External Audit: Financial and Technical	\$6,000.00	\$ 2,700.00	\$ 3,300.00		
020.03	Rental of Office and Parking Space	\$12,000.00	\$ 6,000.00	\$ 6,000.00		
029	CONTRACTS TOTAL	\$154,000.00	\$ 144,700.00	\$ 9,300.00	\$ 154,000.00	100.00%
030	Training					
032	Seminars and workshops (7 events)	\$132,500.00	\$ 56,785.71	\$ 75,714.29		
039	TRAINING TOTAL	\$132,500.00	\$ 56,785.71	\$ 75,714.29	\$ 132,500.00	100.00%
040	Equipment					
045 (ii)	Actual Investment for Demonstrative Projects	\$69,000.00	\$ 34,500.00	\$ 34,500.00		
045 (i)	Project management equipment and maintenance	\$9,500.00	\$ 7,125.00	\$ 2,375.00		
049	EQUIPMENT TOTAL	\$78,500.00	\$ 41,625.00	\$ 36,875.00	\$ 78,500.00	100.00%
050	Miscellaneous					
052	Reporting Costs	\$2,500.00	\$ 1,250.00	\$ 1,250.00		
053	Sundries					
053.01	Office supplies and expenses	\$7,450.00	\$ 3,725.00	\$ 3,725.00		
053.02	Communications (Telephone, fax, courier and E-mail)	\$12,465.00	\$ 6,232.50	\$ 6,232.50		
053.99	Line Total	\$19,915.00	\$ 9,957.50	\$ 9,957.50		
059	MISCELLANEOUS TOTAL	\$22,415.00	\$ 11,207.50	\$ 11,207.50	\$ 22,415.00	100.00%
090	Execution Fee					
094	NGO execution fee (2.0%)	\$14,500.00	\$ 7,250.00	\$ 7,250.00		
099	EXECUTION FEE TOTAL	\$14,500.00	\$ 7,250.00	\$ 7,250.00	\$ 14,500.00	100.00%
	PROJECT TOTAL	\$725,000.00	\$ 414,610.71	\$ 310,389.28	\$ 725,000.00	100.00%

12.4 REPORTS REVIEWED – ENERGY PROJECTS

BUSINESS PLANS Planes de Negocios

NUMBER	PROJECT NAME	AUTHOR	DEVELOPER	DATE (M,Y)	COUNTRY
PN 1	Energy generation from wood residues at PLC	Biomass Technology Group	Pine Lumber	Noviembre, 2001	Belize
PN 2	Proyecto Fotovoltaico para Bombear Agua: Sistema de Riego por Goteo		Ademipp	Setiembre, 2001	Panamá
PN 3	Aplicación de Energía Limpia en los Centros Educativos Ambientales en Reservas Naturales de Panamá		ANCON	Setiembre, 2001	Panamá
PN 4	Proyecto Empresa de Servicios Enegeticos Rurales en Alta Verapaz		Fundación Solar	Marzo, 2002	Guatemala
PN 5	Plan de Negocios para el Proyecto Eólico el Rodeo, San Marcos	NRECA International, Ltd.	Empresa Eléctrica Municipal de San Marcos	Diciembre, 2001	Guatemala
PN 6	Plan de Negocios Propuesto para La Central Hidroeléctrica La Castalia, San Marcos	NRECA International, Ltd.	Empresa Eléctrica Municipal de San Marcos	Diciembre, 2001	Guatemala
PN 7	Proyecto Piloto Pequeña Central Hidroelectrica Yojoa		HidroYojoa S.A.	Noviembre, 2000	Honduras
PN 8	Proyecto Co-generación para venta de energía a la Red		Central Azucarera Tres Valles	Setiembre, 2001	Honduras
PN 9	Proyecto para el uso de Nanoturbinas Hidráulicas para la Producción de Energía Eléctrica y Motriz en fincas cafeteras		SEDES	Setiembre, 2001	Honduras
PN 10	Proyecto fabricación e instalación de sistemas de micro-turbinas hidraulicas para uso de energía domiciliar y uso productivo en zonas rurales		ATDER-BL	Octubre, 2001	Nicaragua

FEASIBILITY STUDIES Estudios de Factibilidad

NUMBER	PROJECT NAME	AUTHOR	DEVELOPER	DATE (M,Y)	COUNTRY
EF 2	Proyecto Pequeña Central Hidroelectrica Yojoa	HidroYojoa, S.A.	HidroYojoa, S.A.	Setiembre, 2000	Honduras
EF 3	Estudio Técnico Proyecto de Cogeneración Eléctrica	Consultores de Ingenios Azucareros, S.A.	Compañía Azucarera Tres Valles, S.A.	Junio, 2001	Honduras

PRE-FEASIBILITY STUDIES Estudios de Pre-factibilidad

NUMBER	PROJECT NAME	AUTHOR	DEVELOPER	DATE (M,Y)	COUNTRY
EF 1	Estudio de Pre-factibilidad P.H. San Joaquín	Consultores en Ingeniería y Recursos Energéticos	Cooperativa de Electrificación Rural Los Santos	Diciembre, 2000	Costa Rica

12.5 FOCER PROJECT DOCUMENTS REVIEWED DOCUMENTS

NUMBER	TITLE	AUTHOR	DATE (M-Y)
1	Documento de Proyecto de Tamaño Mediano-Spanish Version	UNDP	Apr-00
2	Medium Size Project - Brief	UNDP	Apr-00
3	Generación de Energía Solar Fotovoltaica para la casa y cocina de guardaparques en la reserva natural de Punta Patiño, Provincia de Darien - Final Report	ANCON	Dec-01
4	Producción de Agua en Energía Solar Fotovoltaica para riego por goteo - Final Report	ADEMIPP	Nov-01
5	Producción de Agua en Energía Solar Fotovoltaica para riego por goteo - Final Report - Additional comments	ADEMIPP	Dec-01
6	Ampliación y rehabilitación del sistema fotovoltaico en la clínica de Bilwaskarma - Final Report	TECNOSOL	Oct-01
7	Cocinas solares, una alternativa limpia y ecológica - Final Report	FUNPROTECA	Apr-01
8	Electrificación rural como incentivo al manejo de bosque natural para el Pueblo Guaymi del sur de Costa Rica - Progress Report II - Period covered: April - July 2001	TUVA Foundation	Jul-01
9	Electrificación rural como incentivo al manejo de bosque natural para el Pueblo Gauymi del sur de Costa Rica - Progress Report III -Annex 1 Period covered: August - October 2001	TUVA Foundation	Oct-01
10	Difusion de sistemas micro-hidro-energético tipo Adalid - Report	SEDES	Mar-02
11	Mejoramiento de microturbina eléctrica - Final Report	COOPERUNIORO	Aug-01
12	Pilot Program for Sustainable Rural Electrification based on Small-Scale Hydroelectric Plants	ATDER-BL	Mar-00
13	Proyecto de fabricación e instalación de sistemas de micro-turbinas hidráulicas para uso de energía domiciliar y uso productivo en zonas rurales - Final Report and Business Plan	ATDER-BL	Oct-01
14	Esquema metodológico para el Programa de Capacitación de FOCER	BUN-CA	May-02
15	Sistemas Fotovoltaicos en Aplicaciones Domiciliarias Rurales - Regional Workshop- Alta Verapáz, Guatemala, 18-21 Junio 2001	Fundación Solar- BUN-CA, New Mexico State University, Sandia Labs	Jun-01
16	Informe sobre los resultados obtenidos en la auditoria financiera, de gestión y de cumplimiento del proyecto "Creación y fortalecimiento de la capacidad de desarrollo sostenible de la energía renovable en América Central, RLA/00/G35/ 1st Report/ 30 March 2001	Sossa Carrillo and Partners, Public Accountants	Mar-01
17	Informe sobre los resultados obtenidos en la auditoria financiera, de gestión y de cumplimiento del proyecto "Creación y fortalecimiento de la capacidad de desarrollo sostenible de la energía renovable en América Central, RLA/00/G35/ 2nd Report/ 15 April 2002	Sossa Carrillo and Partners, Public Accountants	Apr-02
18	Guide for Renewable Energy Project in Belize	BUN-CA	Jan-01
19	Guía para desarrolladores de Proyectos de Generación de Energía Eléctrica utilizando Recursos Renovables - Panamá	BUN-CA in cooperation with Universidad Tecnológica de Panama	to be published 2002
20	Concept Paper - Phase II	BUN-CA	May-02
21	Medium Size Budget - First Version	BUN-CA	
22	Medium Size Budget - Final Version	BUN-CA	
23	Guías desarrolladores de proyectos - CD	BUN-CA	
24	Resumen del FOCER	BUN-CA	May-02
25	Resumen de proyectos	BUN-CA	
26	List of Publications	BUN-CA	May-02

27	Resumen de proyectos	BUN-CA	
28	Formulario Monitoreo	BUN-CA	May-02
29	Estado de los proyectos	BUN-CA	May-02
30	Memorandum Criterios Proyectos	BUN-CA	Nov-98
31	TOR - External Project Evaluation	BUN-CA	May-02
32	Cronograma Gestion Hidro Yojoa	Manuel Ma-Tay	Jun-02
33	Working Plan - May 2000 - December 2001	BUN-CA	May-00
34	Working Plan - January 2001 - February 2002	BUN-CA	Jan-01
35	Working Plan - November 2001 - February 2002	BUN-CA	
36	Cooperation Agreement among BUNCA & Partners	BUN-CA	
37	Tripartite Meeting	BUN-CA	Nov-01
38	PDF A Document - Brief - Spanish Version	BUN-CA	
39	Introduction to Sustainable Energy for Financial Institutions - Workshop Evaluation - Period January - June 2001	BUN-CA	Jun-01
40	FOCER Projects in the Centroamerican Region	BUN-CA	
41	GEF Project Pipeline on Climate Change in Central America: OP #6	BUN-CA	
42	Reducción de Emisiones de Carbono - Una Guía para Empresarios de Energía Renovable.	FENERCA, E&Co and BUN-CA	Aug-01
43	Manual para Empresarios - Sistemas Aislados de Energía Renovable.	FENERCA, FOCER, E&Co and BUN-CA	Aug-01
44	Taller Regional de Sistemas Fotovoltaicos en Aplicaciones Domiciliarias Rurales	FSOLAR, BUN-CA, NEW MEXICO STATE UNIVERSITY, SANDIA NATIONAL LABS	Jun-01
45	Resumen de proyectos	BUN-CA	
46	Resumen de proyectos	BUN-CA	
47	Resumen de proyectos	BUN-CA	
48	Resumen de proyectos	BUN-CA	
49	Resumen de proyectos	BUN-CA	
50	A - ELECTRONIC DOCUMENTS	BUN-CA	
51	Plan de Trabajo -Focer.xls	BUN-CA	
52	Primer Informe de Avance - Enero 1 - Junio 30, 2000	BUN-CA	Jul-00
53	Segundo Informe de Avance - Julio 1 - Diciembre 31, 2000	BUN-CA	Jan-01
54	Tercer Informe de Avance - Enero 1 - Junio 30, 2001	BUN-CA	Jul-01
55	Cuarto Informe de Avance - Julio 1 - Diciembre 31, 2001	BUN-CA	Jan-02
56	Resultados e indicadores.doc	BUN-CA	
57	Guía para la Desarrolladores de Proyectos de Generación de Energía Eléctrica utilizando Recursos Renovables - CD	BUN-CA	Jan-02
58	Manuales Técnicos - CD	BUN-CA	Feb-02
59	Estudios de Caso - CD	BUN-CA	Mar-02

12.6 PROGRAMMING OF ACTIVITIES OF THE EXTERNAL EVALUATOR

The agenda of meetings and visits were organized to interview E&Co, other NGO's present in the region, beneficiaries of the project (2 project developers, 2 financial institutions, 2 governmental agencies and 2 high level policy makers) and to carry out site visits to 2 demonstration projects.

The evaluator travelled to Costa Rica on May 2002, and to Honduras and Costa Rica on June, to develop the agendas (See Table 5 and Table 6).

Table 5. External evaluator agenda for May 2002

Date	Activity / Institution / Organisation	Governm. Institutions	Policy makers	Project developers	Financia I	Demo Site	Firms / NGO	
Tuesday 28, May	UNDP - Kick-off meeting - Carazo, Koefoed-Hansen, Umaña, Marty							CR
Tuesday 28 May (afternoon), Wednesday 29 (all day), Thursday 30 (morning)	BUNCA Office, San José, CR - Umaña, Massis, Fajardo						X	CR
Thursday 30 May (afternoon)	UNDP - Marty, Carazo, Koefoed-Hansen, Umaña							CR
Friday 31 May (morning)	Giovanni Castillo, DES, Subdirector	X	X					CR
Friday 31 May (morning)	BUNCA Office, San José, CR - Umaña, Massis, Fajardo						X	CR

Table 6. External evaluator agenda for June 2002

Date	Activity / Institution / Organisation	Governm. Institutions	Policy makers	Project developers	Financia l	Demo Site	Firms / NGO	
16 Sunday	Bogota - Tegucigalpa - Airflight							
17 Monday	SERNA	X	X					Ho
	DIRECCION ENERGIA	X	X					Ho
	BCIE				X			Ho
	Manuel Ma-Tay - Project developer - Hidroyoja			X				Ho
18 Tuesday	SEDES (nanoturbinas)			X		X		Ho
	Jack Arévalo (Proyecto Cececapa)			X				Ho
19 Wednesday	Tres Valles (Cogeneración)			X				Ho
	Julio Cárcamo, Ad Dankers, Richard Barathe -PNUD Honduras							Ho
19 Wednesday - Afternoon	Tegucigalpa - San José - Airflight							
20 Thursday	BUN-CA						X	CR
	Coopesantos (Coop generación ee con hidro)			X				CR
21 Friday	E&Co				X		X	CR
	José Blanco, BUN-CA							CR
22 Saturday	San Jose - Osa - CR - Airflight							CR
	Fundacion Tuva			X		X	X	CR
23 Sunday	Osa - San Jose - CR - Airflight							
24 Monday	BUN-CA							CR
	ICE	X						CR
	PNUD							CR
25 Tuesday	San José - Bogotá - Airflight							
	Total	3	2	6	2	2	3	

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