

PD-ABP-040

93884

**FINAL EVALUATION**  
**of the**  
**RENEWABLE ENERGY APPLICATIONS AND TRAINING PROJECT (REAT)**  
**and the**  
**BIOMASS ENERGY SYSTEMS AND TRAINING PROJECT (BEST)**

Prepared by:

Donald R. Jackson  
Charles A. Bankston

Submitted to  
United States Agency for International Development  
Center for Environment  
Office of Energy, Environment and Technology  
Under AEP-0085-I-00-6016-00, Delivery Order 1

Submitted by  
Tropical Research and Development, Inc.  
7001 SW 24<sup>th</sup> Avenue  
Gainesville, Florida 32607

## TABLE OF CONTENTS

1. Introduction and Methodology .....	1
1.1. Introduction .....	1
1.2. Methodology .....	2
2. Program Description .....	4
2.1. US/ECRE and the REAT Project .....	4
2.1.1. The REAT Project .....	4
2.1.2. The US/ECRE Program .....	4
2.1.3. Winrock and the NGO/REI Program .....	7
2.2. Winrock International .....	7
2.2.1. The BEST Project .....	7
2.2.2. Winrock International and the REAT Project .....	10
2.2.2.1. As a Subcooperator to US/ECRE .....	10
2.2.2.2. As a Cooperator in the NGO/REI Initiative .....	11
3. Findings and Conclusions .....	13
3.1. Special Relationship Between USAID and US/ECRE .....	13
3.1.1. General Perception of ECRE/USAID Relations .....	13
3.1.2. Sklar's Influence on USAID Programs .....	14
3.1.3. Current US/ECRE - USAID Relations .....	15
3.2. US/ECRE— Scope of Work .....	16
3.2.1. Consistency of Purpose and Goals .....	16
3.2.2. Planning and Annual Work Plans .....	16
3.2.3. The Approval Process .....	17
3.2.4. Reporting of Progress and Accomplishments .....	18
3.2.4.1. Summary of Reporting Requirements .....	18
3.2.4.2. Quarterly and Annual Reports .....	19
Semi-Annual (SAR) or Accomplishment Reviews .....	20
3.2.4.4. Other Documents .....	21
3.2.5. Program Accomplishments .....	22
3.2.5.1. Outputs and Indicators from Project Paper .....	22
3.2.5.2. Current Indicators .....	24
3.2.6. Management .....	29
3.2.7. Information Dissemination .....	32
3.2.8. Leveraging of Funds Beyond G/ENV/EET .....	33
3.2.9. Tracking of Expenses by Funding Source .....	34
3.2.10 G/ENV/EET Management .....	34

3.3.	US/ECRE—Additional Findings	35
3.3.1.	The Procurement Mechanism	35
3.3.2.	Allocation of Project Resources	36
3.4.	Winrock International— Scope of Work	38
3.4.1.	Consistency of Program Descriptions and Outputs	38
3.4.2.	Reporting of Progress and Accomplishments	40
3.4.3.	Program Accomplishments	42
3.4.4.	Bottlenecks and Problem Solving	43
3.4.5.	Management of Subcooperators	46
3.4.6.	Information Dissemination	47
3.4.7.	Mission Acknowledgement and Funding	47
3.4.8.	Leveraging of Funds Beyond USAID	49
3.4.9.	Organizational Structure of the Cooperators	50
3.4.10	Segregated Tracking of Labor Expenses	51
3.4.11	USAID Management	51
3.5.	Winrock International—Additional Findings	53
3.5.1.	Budgetary Considerations	53
4.	Issues and Recommendations	55
4.1.	Planning- US/ECRE and Winrock	56
4.2.	Reporting- US/ECRE and Winrock	56
4.3.	Program Accomplishments- US/ECRE and Winrock	57
4.4.	Cost-Shared Feasibility Studies- Winrock	58
4.5.	Benefits to US Industry- US/ECRE	58
4.6.	Management of Subcooperators- Winrock	59
4.7.	Information Dissemination- US/ECRE and Winrock	59
4.8.	Mission Buy Ins- US/ECRE and Winrock	60
4.9.	Organizational Structure of the Cooperators- Winrock	60
4.10.	Budgetary Considerations- Winrock	60
4.11.	Management Burden - US/ECRE	61
4.12.	Sustainability US/ECRE - US/ECRE	61
4.13.	Sustainability of REPSOs- Winrock	62
4.14.	REPSO Staffing- Winrock	62
4.15.	G/ENV/EET Program Management- USAID	63
4.16.	Inappropriate Procurement Mechanism-US/ECRE, Winrock, USAID	63
5.	Appendices	65
5.1.	Country Field Reports	65
	Guatemala	65
	India	73
	Indonesia	78

5.2. Tables ..... 84  
5.3. Figures ..... 85  
5.4. Contacts List ..... 86  
5.5. Bibliography ..... 88  
5.6. Scope of Work (TR&D, please insert SOW. Our copies are tattered.) ..... 97  
5.7. Comments from Cooperators on Second Draft Evaluation Report ..... 98

## LIST OF ACRONYMS

AAAS	American Association for the Advancement of Scholars
AID	Agency for International Development (Washington)
AWEA	American Wind Energy Association
BEST	Biomass Energy Systems and Training project
BST	Bioenergy Systems and Technology
CREST	The Center for Renewable Energy and Sustainable Technology
DOE	Department of Energy
DOC	Department of Commerce
EEAF	Environmental Enterprise Assistance Fund
EPA	Environmental Protection Agency
FAR	Federal Accounting Regulations
FOG	Fixed Obligation Grant
FTE	Full Time Equivalent
GEF	Global Environmental Facility
G/ENV/EET	Global/Environment/Energy Efficient Technologies
IFC	International Finance Corporation
IFREE	International Fund for Renewable Energy and Energy Efficiency
IG	Inspector General
IREDA	Indian Renewable Energy Development Administration
JICA	Japanese International Cooperation Agency
LAC	Latin America and Caribbean
MDB	Multilateral Development Bank Initiative
M/OP	Office of Procurement
NGO	Non-Governmental Organization
NGO/REI	Non-Governmental Organization/Renewable Energy Initiative
NMS	New Management System
NRECA	National Rural Electric Cooperative Association
OYB	Operating Year Budget
PLN	National Power Authority (Indonesia)
PPA	Private Power Agreement
PVO	Private and Voluntary Organizations
REAT	Renewable Energy Applications and Training project
RECOMM	Renewable Energy Commercialization and Management
RED	Renewable Energy Development project in Indonesia
REFTA	Renewable Energy Financing and Technical Assistance Project (Philippines)
REETI	The Renewable Energy and Efficiency Training Institute
RENI	Renewable Energy Network for Indonesia
REPSO	Renewable Energy Support Offices
SEIA	Solar Energy Industries Association

SEREF	Solar Energy Research and Education Foundation
UNDP	United Nations Development Program
USAID	US Agency for International Development (Overseas)
US/ECRE	United States Export Council for Renewable Energy
VITA	Volunteers in Technical Assistance
YBUL	Yayasan Bina Usaha Lingkungan

## **1. Introduction and Methodology**

### **1.1. Introduction**

The following document is an evaluation of several cooperative agreements managed by the G/ENV/EET under two separate but related projects; the Renewable Energy Applications and Training (REAT) project, and the Biomass Energy Systems and Training (BEST) project. REAT began in 1985, and is currently scheduled to terminate in September 1997. BEST began in 1989 and is due to terminate in November 1997. By the PACD's of each project BEST will have used its originally programmed budget of \$15.0 million, while REAT will have gone from an original five-year planning horizon and \$8.2 million to a twelve-year marathon during which over \$34.3 million will have been expended. Since FY 1991 the prime cooperator for REAT has almost exclusively been the United States Export Council for Renewable Energy (US/ECRE) which has had three cooperative agreements. Winrock International has been the prime cooperator for the BEST project which has included only one cooperative agreement. US/ECRE is a consortium of renewable energy trade associations and Winrock International is a PVO working in international agriculture.

Both projects have changed in shape and direction over the years allowing G/ENV/EET and its predecessors to use them as instruments of policy implementation which were flexible enough to accommodate changing conditions, priorities and opportunities. With the exception of different cooperators, the rationale for both projects--their Goals and Purposes--are distinguished only by the type of renewable energy promoted; BEST promotes the use of biomass cogeneration, while REAT promotes all kinds (wind, solar, hydro, geothermal, and biomass).

The **Goal** of REAT is to assist selected developing countries in meeting their energy needs for development through expanded deployment of economically viable energy options, while the **Goal** of the BEST project is to increase energy production in USAID-assisted countries and improve natural resource management by using biomass wastes for power and liquid fuel production. Likewise, the **Purposes** of REAT and BEST are respectively, to bring about investment in renewable energy systems that contribute to the solution of development problems of concern to USAID, and to reduce the technical, financial, economic, and institutional risks associated with biomass energy systems in order to encourage public and private sector interests to invest in commercially-proven energy conversion systems.

Key to the implementation of these Goals and Purposes is G/ENV/EET's desired approach of developing a portfolio of 'bankable' projects which will be attractive to investors, the private sector banking community, and the multilateral lending agencies. It is in this area that the projects have met their most difficult challenges.

A last introductory note that is critical to an understanding of both projects is that they heavily favor working in partnership with the private sector--REAT more so than BEST--in both USAID-assisted developing countries as well as in the US. Whether it was an intended rationale or not, integrating the energy needs of developing countries with the technologies and experience

available from US manufacturers and suppliers is a significant achievement of these projects in their own right.

All in all, the beneficiary pool from both of these projects is quite broad extending from remote villagers who receive electricity for the first time, to governments which are better managed and paid for through rational energy policies, to US manufacturers and suppliers of renewable energy technology and expertise, and to the world community which benefits from a less polluted environment.

## **1.2. Methodology**

This evaluation was conducted over a five month period from November 1996 through March 1997, by a two person team composed of a development economist/evaluator and a renewable energy expert. This is in contrast to the Project Papers, Cooperative Agreements, and other project planning documents which all propose 4-6 person evaluation teams.

The team began by interviewing appropriate staff in G/ENV/EET and M/OP, as well as those of the two prime cooperators, US/ECRE in the case of REAT, and Winrock International in the case of REAT and BEST. During this time, the team also obtained voluminous project documents including Project Papers, Cooperative Agreements, Annual Work Plans, Quarterly Reports, promotional materials, and other documents of a technical nature. A telephone interview with approximately 20 US entrepreneurs who had received various types of support from the projects was also conducted.

The team then traveled to Guatemala to interview the staff of Fundación Solar, other NGOs working with renewable energy, public sector representatives, the USAID Mission, and project beneficiaries. The team returned to Washington where it continued the process of interviewing the staffs of the various organizations. A second field trip was undertaken to Delhi and Jakarta where discussions took place between the team and the Renewable Energy Support Offices (REPSOs), mission personnel, project beneficiaries, and public and private sector representatives. Many documents were also collected and consulted from the three countries visited. A list of persons contacted during the evaluation and a bibliography of documents consulted can be found in the annexes to this report.

Based on this field work, a draft report was prepared and presented to G/ENV/EET, US/ECRE, and Winrock. Comments and corrections were received and, where possible, incorporated into the final draft report.

In the team's experience the task of carrying out this evaluation was not an easy one. Not only was the process lengthy and geographically disperse, but the process of information gathering was, at times, tedious and frustrating. The very integration of the two projects, the interaction between and among the two principal cooperators, US/ECRE and Winrock, and a multitude of sub-cooperators and contractors, made the task even more challenging.

Nevertheless, it was gaps in the quantity and quality of information which proved to be the most difficult. The Logical Framework Matrices, the backbone against which most Agency projects are evaluated quickly became out of date and were never revised (In 1993, the G/ENV/EET program officer updated the 1985 Logical Framework for the REAT project but it was never subscribed to by Winrock or US/ECRE, nor does it appear in any cooperative agreements to date. Our Scope of Work specifically quotes and refers to the original Logical Framework Matrix.). Quarterly program reports were not required and not prepared until the first quarter of 1996 in the case of the REAT project, (Although they cover the period from the last quarter of 1993 up through 1996.), and until the first quarter of 1995 in the case of the BEST project.

Furthermore, while an attempt was made to perform a 'mid-term' evaluation of both projects, it was never completed and no report was written. Lastly, both projects have had to deal with a fairly high turnover in personnel. Among those available for interview, only one person at US/ECRE and one at Winrock had been with their respective projects for more than five years. Indeed, a strong majority of those interviewed had been on the job for only one to two years.

The Scope of Work, attached as an Appendix, calls for separate evaluations of US/ECRE and Winrock, while acknowledging the overlaps between both projects and often both cooperators. We have attempted to comply with this condition by segregating our comments, issues, and recommendations by cooperator, while keeping to the format of one overall report.

## **2. Program Descriptions**

### **2.1. US/ECRE and the REAT Project**

#### **2.1.1. The REAT Project**

The stated goal of the REAT project from the July 1985 Project document was "to assist selected developing countries in meeting their energy needs for development through the expanding deployment of economically viable renewable energy options." The original project plan placed emphasis on the development of portfolios of "bankable" projects and contained a clear commitment to work with U.S. industry, the private sector in developing countries, and especially, with the international banking institutions, to develop projects that would be sustainable once USAID assistance ended.

The first phase of the REAT project, i.e. from 1985 through 1990 was carried out mainly by the U.S. National Laboratories, and a few private contractors. The total obligations for the initial phase were \$4,074,609 through the end of FY 1991. In FY 1990 the focus of the program shifted from Oak Ridge and IQC contractors to a cooperative agreement with US/ECRE. The initial year of the agreement with US/ECRE had a budget of \$250,000. However, the budget grew rapidly, and the total obligations to US/ECRE through FY 1996 was \$18,660,553. In addition to the US/ECRE funds, the second phase of the Project included direct payments to Winrock of \$3,941,244, payments to the Environmental Enterprises Assistance Fund of \$3,970,500, and small amounts to AAAS and TR&D. The total REAT obligations from FY 1985 through FY 1996 were \$32,564,470.

#### **2.1.2. The US/ECRE Program**

US/ECRE is a non-profit organization, founded in 1982, supporting the renewable energy and energy efficiency industries in efforts to accelerate international use of their technologies. According to the program description that accompanies the first agreement, August 1, 1990, the goal of US/ECRE is "to promote domestic and international trade and investment in renewable energy." The stated purpose of the agreement is to "support and help expand US/ECRE's activities in renewable energy training, information dissemination, and international trade for those regions and applications where U.S. renewable energy technology can support local development goals in an economically and environmentally sustainable manner."

Thus, the goal of the agreement is consistent with that of the original REAT Project Paper. In addition, the USAID renewable energy programs, had for several years, been shifting away from R&D projects toward commercialization with an emphasis on commercial hardware. USAID had started to utilize experts from the commercial private sector in planning and implementing parts of its program. The marriage between USAID and the renewable energy industries represented by US/ECRE seemed appropriate.

It should also be pointed out that during this time (89-96), Congressional legislation which funded, and continues to fund, renewable energy-related activities contained language which favored US industry and urged USAID to use US industry in its programs as well.

US/ECRE member associations include:

American Wind Energy Association  
National Geothermal Association  
National Association of Energy Service Companies  
National Hydropower Association  
National Bioenergy Industries Association  
Renewable Fuels Association, and  
Solar Energy Industries Association

US/ECRE provides a number of services on behalf of its members including: outreach programs to provide decision makers with the necessary information to make informed decisions on energy options; trade promotion programs to provide specific information about renewable energy products; technical assistance and training for customers and potential customers; policy support to governments and utilities to encourage the use of renewable energy; project facilitation, financing, and follow-up to help gain access to capital and streamline the approval process for renewable energy projects; and regional programs aimed at involving a broad range of public and private sector officials in regional markets.

US/ECRE, which at the time of the first agreement with USAID, had no staff and no offices, carried out its work through agreements or contracts with its member associations or contracts with outside consultants or cooperators. Five major subcooperators have made important contributions to US/ECRE's program over the past seven years.

- CREST- The Center for Renewable Energy and Sustainable Technology produces educational multimedia CD-ROMs and operates Solstice, an Internet service for the sustainable energy field. CREST consists of two organizations: a Washington, DC program that is part of the non-profit Solar Energy Research and Education Foundation (SEREF), and a San Francisco, CA small business. SEREF was incorporated in 1978, CREST was formed in 1993, and the San Francisco office opened in 1996.
- IFREE- The International Fund for Renewable Energy and Energy Efficiency was established as a non-profit corporation to foster environmentally sound renewable energy projects in the developing world. Conceived by US/ECRE, IFREE is funded by USAID, the Rockefeller Foundation, the Department of Energy (DOE), and the Environmental Protection Agency (EPA). As broker/facilitator of project finance, IFREE depends upon the expertise of its associated industry, government, and philanthropic organizations to evaluate and select projects to be supported. IFREE supports renewable energy and energy efficiency projects under its, "Pre-Investment Funding Program," and the, "Financial Engineering and Innovation Program." Both of these programs are designed

to facilitate increased access to funding for renewable energy projects in the developing world.

- REETI- The Renewable Energy and Efficiency Training Institute is a private non-profit 501(c)(3) organization that encourages the development of sustainable global markets for renewable energy and energy efficiency technologies by facilitating the transfer of training and technology expertise from U.S. industry to international markets and institutions in Africa, Asia, Latin America, and the United States. REETI specializes in the transfer of expertise relating to solar, wind, biomass, geothermal, microhydro, hydrogen, and energy efficiency technologies.
- REETI organizes training courses and technology transfer activities in partnership with the international public and private sector renewable energy and energy efficiency communities. REETI training activities are conducted by highly qualified U.S. industry representatives recruited for their special expertise and training skills in renewable energy and efficiency technologies.
- VITA- Volunteers in Technical Assistance was created to provide technical information and assistance to individuals and NGOs in developing countries. VITA has managed a Technical Inquiry Service for development since 1959, made weekly broadcasts over Voice of America since 1986, and responded to inquiries regarding renewable energy or sustainable agriculture. To help deal with the lack of communications infrastructure in remote areas of developing countries, VITA has developed low earth orbiting satellite technology, terrestrial digital radio networks, and phone connected Internet gateways. All of these technologies are powered by solar photovoltaic systems. VITA has collaborated with US/ECRE in demonstrating the value of low orbit satellites for renewable energy technology transfer to developing countries. The system has been used to transmit information via e-mail and to monitor and control remote hybrid renewable energy power stations in Indonesia. VITA was included in the project at that time as the result of specific Congressional funding legislation which earmarked \$500,000 for the organization's satellite program.
- Winrock International

Winrock International, with sponsorship from the Center for Environment of USAID and US/ECRE, has attempted to build a global network of non-governmental organizations to help catalyze the use of renewable energy technologies for rural energy supply in developing countries. These Renewable Energy Project Support Offices (REPSOs) are in-country facilities managed by local institutions in coordination with Winrock. REPSOs provide an array of technical and financial support services to help developers identify and evaluate opportunities for renewable energy projects. Collectively, the REPSOs are intended to form an international network that will act as a medium for the critical exchange of ideas and information, helping to promote an alliance between the growing community of renewable energy users and their suppliers in a common pursuit

of harnessing proven technologies for sustainable energy development. REPSOs offer a variety of services to meet the needs of local and US project developers and product marketers. These services are offered as part of three broad initiatives designed to engage the resources of private developers, utilities, and country governments to advance the use of renewable energy systems: Project Identification, Evaluation, and Implementation; Trade and Technology Transfers; and, Utility Collaboration.

### **2.1.3. Winrock and the NGO/REI Program**

In 1996, the management of the five major subcooperators listed above was transferred from US/ECRE to Winrock. The part of the REAT program that included the subcooperators and Winrock's own management of the REPSO network was relabeled by Winrock and became the Non-Governmental Organization/Renewable Energy Initiative (NGO/REI). The purpose of this transfer was to take advantage of Winrock's perceived managerial skills and accounting systems and work in the development field. While the budgeted disbursements to the subcooperators remained essentially level in 1996, the total budget for Winrock's part of REAT went from \$448,000 spent in 1995 to \$2.264 million budgeted (see Table 5) for 1996. However, only \$1,215,352 was actually invoiced in 1996—\$619,334 to subcooperators and \$596,019 in house. This drop in expended resources mirrored overall budget cuts by Congress to USAID, and have had a severe impact on programming activities and targeted goals.

## **2.2. Winrock International**

### **2.2.1. The BEST Project**

The BEST project was a follow-on activity to the Bioenergy Systems and Technology (BST) project which ended in 1989. One of the important lessons learned from that project was that there was, "...a large opportunity to merge the economic development interests of USAID with the interests of the private sector, the philanthropic community, and universities in the development of systems that produce energy from biomass." (Cooperative Agreement) Winrock International expressed interest in implementing a project designed around this concept and was awarded a cooperative agreement in mid-1989. Of the various activities discussed in the Cooperative Agreement, two were focused on during the first four years of the project; applied research into the transfer of US-based biomass technologies to USAID-assisted countries, and attempts to commercially replicate these technologies in the same USAID-assisted countries. The testing and adaptation of US technologies were performed in the context of 'working laboratories' which blended the equipment and expertise of US technicians with the conditions and realities of developing countries.

The second of the two focuses was not as successful, however. In many cases the concept of producing power commercially for sale to a national or regional grid was not well received by traditionalists in-country who saw the generation and supply of power as a proper domain of government. Likewise, bankers and other potential investors were equally disinterested due to a

lack of operating models to use as reference points, as well as the relatively higher front end costs and longer payback periods involved with biomass projects. Finally, others have suggested that the technical capacity of several of the entrepreneurs selected was not up to the requirements of the technologies.

In 1993, the project was redirected while still remaining within its original Goal and Purpose. Although no documentation exists stating the goals or activities of this redirection, the Winrock program manager recalled that most adaptation research was phased out and additional resources were focused on the commercial development of existing technologies. A shift in emphasis from megawatt (MW) sized technologies to kilowatt (KW) sized ones in an attempt to reach more isolated rural dwellers was also part of the redirection. It was also at this time that Winrock began to establish formal links to the US private sector through US/ECRE and its member trade association dealing with biomass technologies.

At this point we must 'fast forward' the discussion to early 1995. Until then no quarterly or yearly reports were required of Winrock under the BEST project and none were prepared. However, the 1993/94 period was also when Winrock became a subcooperator under US/ECRE through the REAT project responsible for many of the same types of activities as it was under BEST. A review of US/ECRE's quarterly reports for the period reveals that some of the activities and projects reported on are biomass related--a biomass video here, a biomass cogeneration study there--giving the impression that all of Winrock's reporting for both the BEST and REAT was being submitted through US/ECRE.

It seems certain, however, that much did occur because the first quarterly report for 1995 claims significant success in reaching two critical indicators called for in the BEST Project Paper:

- More than 200 MW of electrical capacity based on biomass cogeneration installed in USAID-assisted countries; and,
- Major bilateral, multilateral, and private financial institutions now manage lending programs that allocate hundreds of millions of dollars for investment in biomass cogeneration systems.

The report also announces a radical change in the method of supporting renewable energy possibilities overseas--the formation of REPSOs in five USAID-assisted countries; Central America (Costa Rica), Indonesia, Philippines, India, and Brazil. These offices, some of which are attached to Winrock field offices while others are NGO sub-contractors, were, and are, to provide an in-country institutional base to eventually sustain and expand the impact of the BEST project activities. The origin, development, and future prospects for sustainability of each of the REPSOs are different in each case and has depended, and will continue to depend, on a mixture of the correct policy environment, USAID Mission support, dedicated leadership and dedication, and the availability of funding for project development and working capital. (The first, and to date most successful, REPSO was started in Costa Rica and originally intended as a Central America-wide initiative. With the closure of the USAID bilateral mission in Costa Rica, a

decision was taken to maintain the regional focus of the REPSO, but to transfer it to Guatemala where there is still a USAID presence. A Guatemalan NGO working in the renewable energy sector, Fundación Solar, was identified and contracted with to be part of the REPSO network. However, due to budget cuts and other limitations, there is very little work which can be performed outside of Guatemala.)

An innovative promotional exercise consisting of pre-investment support grants for cost-shared feasibility and pre-feasibility studies was also initiated through the REPSOs. Other REPSO activities included the preparation of Renewable Energy Trade Guides, workshops, trade fair expositions, and the identification of potential biomass and other renewable energy projects.

Other BEST project activities have included: a Multilateral Development Bank (MDB) Initiative, a Utility Initiative, a Carbon Inventory, a Cane Energy Development Program, and an Information Dissemination Program. The MDB Initiative has mainly involved collaboration with various technical offices of the World Bank, and especially with the Bank's Renewable Energy Development (RED) Project in Indonesia. In this case BEST staff members assisted the bank with the preparation of five power export projects based on biomass energy. Other financial institutions with which BEST staff has interacted include the Global Environmental Facility (GEF) and the International Finance Corporation (IFC). The Utility Initiative is an information exchange program between US-based utilities and developing country counterparts and is related to technical issues, training, and project preparation assistance for renewables. Together with US/ECRE under the REAT project, the initiative has also sponsored symposia and other fora addressing the role of utilities in the deployment of renewables. The Carbon Inventory is to develop and test methods and procedures for monitoring carbon sequestration that could result from the establishment of 'energy plantations' to replace fossil fuels. This activity is subcontracted and research is being conducted primarily in Belize and Brazil. The Cane Energy Development program is a research effort which assesses the technical and economic viability of new cane energy technologies. Work has primarily been done in Thailand on cane trash removal but the effort was cut short when the research fields being used became waterlogged. This activity also spawned the International Cane Energy Network (ICEN) which is now responsible for the coordination of research and the exchange of technical information concerning the growing of sugarcane for energy use. The Information Dissemination component utilizes various forms and media to disseminate information on renewable energy issues: bioenergy Systems Reports (BSRs), a biomass video, a newsletter, and occasional specific technical reports.

Additionally, REAT was designed and implemented under the belief that USAID missions would allocate portions of their budgets to BEST-assisted activities. Indeed, \$10.0 million of the \$25.0 million total value of the project was to have come from these mission 'buy-ins'. However, in 1993 the Office of Procurement (M/OP) implemented a decision that non-competed cooperative agreements could not be augmented with mission appropriated funds. Given declining budgetary levels at missions around the world it is difficult to estimate the actual number and amount of buy-ins which would have been leveraged worldwide. Suffice to say that the missions for which promoting renewable energy has been a priority have devised other methods of obtaining BEST information and resources. (There were two buy-ins before the M/OP decision and four missions

have signed cooperative agreements with Winrock for renewable energy assistance. The total for these six agreements is approximately \$8.2 million.)

Another operational issue which limited the project was that both BEST and REAT offer cost-share financing for feasibility studies. However, proposals submitted to the BEST project must be approved by M/OP in addition to G/ENV/EET, Winrock, and the REPSO. In contrast, under the REAT project M/OP is not involved in the proposal approval process. This relatively shortens what has become an extremely lengthy process.

## **2.2.2. Winrock International and the REAT Project**

### **2.2.2.1. As a Subcooperator to US/ECRE**

US/ECRE is an established trade association attempting to attend to member needs as they seek to expand their operations overseas. Winrock International is a well established non-profit organization which works internationally, principally in agricultural development. Its clients are international aid and other philanthropic donors. These two organizations therefore behave quite differently and respond to different clienteles as well. Their marriage, while necessary and potentially fruitful, has not been an easy one.

The working relationship between US/ECRE and Winrock under the REAT project was based on three consecutive subcontracts budgeted yearly beginning in FY 92 at \$501,745, \$462,500, and \$525,000 respectively. Through slippages these three subcontracts were extended to cover nearly a five-year period, and \$202,000 was withheld by US/ECRE bringing the total actually transferred to \$1,287,245.

The original intent of this US/ECRE-Winrock partnership was to provide US industry with access to a local, in-country network through the REPSOs that could facilitate project promotion, partner identification, policy promotion, and broaden market development. Basically, the concept consisted of identifying and developing commercial renewable energy projects. The task was to implement this concept through the REPSO network by strengthening each REPSO to the point where they could be self-sustaining. Specific Year 1 and 2 activities included:

- The development of criteria and time lines for the cost-share program to fund prefeasibility and feasibility studies for renewable energy projects, and prepare progress reports on the development of the REPSO network.
- Presentation of the REPSO program to the US/ECRE Board of Directors to solicit industry suggestions and support.
- A survey of industry members to discuss project/marketing interests.
- A list of potential projects for US industry involvement in USAID-assisted countries.

These 'deliverables' were all met although the time frame slipped considerably as noted above. Also, as noted above, the two organizations, US/ECRE and Winrock, have different constituencies and modes of operation. By mid-1995, this eventually led to the end of the contractual relationship. The final report for US/ECRE's second cooperative agreement states their concerns. "A REPSO evaluation conducted by US/ECRE under this agreement indicates that although the REPSOs may be performing well locally, the linkages anticipated with U.S. industry have not occurred as expected. Thus in the future, US/ECRE does not anticipate contracting with Winrock for broad-based REPSO support as was done under this Agreement."

#### **2.2.2.2. As a Cooperator in the NGO/REI Initiative**

While US/ECRE saw the REPSO network as not meeting the needs of its members, G/ENV/EET saw promise in their potential to continue to support and promote renewable energy initiatives. Winrock also had several successes with the REPSO model, especially Costa Rica, which it could point to in its request for continued funding. The additional fact that the 'REPSO countries'--Brazil, Indonesia, India, the Philippines, and Central America--contain a significant proportion of the world's land mass, and an even greater proportion of the world's population, made the continuation of REAT support to the network very justifiable.

In late 1995, a new cooperative agreement, its first under the REAT project, was issued to Winrock for \$4.4 million over a two-year period. Now, however, in addition to bolstering the REPSO network, Winrock would also manage the other principal subcooperators--IFREE, REETI, VITA, and CREST--that it had been associated with while a subcooperator to US/ECRE.

The purpose of the cooperative agreement is to expand the achievements projected under REAT, and funded through US/ECRE, "and to utilize the unique strengths of the NGO and REPSO linkages to greater effect." The document goes on to further reason that worldwide consciousness concerning the burning of fossil fuels is rising and will create a greater demand for renewable energy sources at the same time that US utilities, facing flat demand for their electricity, are looking overseas towards long-term relationships. Lastly, the document states that the success of this program will help the developing world accept the wisdom of "joint implementation". Of the \$3,941,244 obligated, \$1,365,335 was spent as of 2/28/97.

At this point the two projects--BEST and REAT--merge to the point where for all practical purposes they are the same. As is the case with BEST, the Winrock-managed REAT cooperative agreement contains a similar list of activities:

- The REPSO network and their management located in five countries;
- The Multilateral Development Bank Initiative;
- The Utility Initiative; plus

- The four subcooperators, IFREE, REETI, CREST and VITA.

Additionally, the cost-share program for feasibility and prefeasibility studies is also the principal mode of promotion and assistance.

### **3. Findings and Conclusions**

The following findings and conclusions provide the basis for this report and are divided into two categories; those specifically called for in the Scope of Work (SOW) for the evaluation, and those identified by the evaluators during the course of the evaluation but which were not called for in the SOW. Additionally, the SOW requests that the roles of US/ECRE and Winrock International be examined separately.

#### **3.1. Special Relationship Between USAID and US/ECRE**

There are strong feelings within USAID and other organizations about the relationship between US/ECRE, USAID, Congress, and the renewable energy industries in the US. These are addressed here at the beginning of the report based on the evaluators' personal knowledge and interviews with USAID, DOE, industry representatives, and current and former US/ECRE staff; the more traditional evaluation follows.

##### **3.1.1. General Perception of ECRE/USAID Relations**

###### **Findings**

There is a prevalent perception within USAID (and elsewhere within the renewable energy community) that US/ECRE enjoys a special relationship by virtue of the influence that former US/ECRE Executive Director Scott Sklar had with Congress. The theory is that Sklar, through his lobbying efforts on behalf of the renewable energy industries and the Solar Energy Industries Association in particular, is able to control the funds allocated to USAID for its renewable energy programs. (It is noted that a number of appropriations bills contained language that suggested or urged the agencies to spend resources on specific projects with specific contractors.) If USAID were dependent on Sklar for its budget, it follows that he may have had a strong voice in deciding how that budget was spent. This, it is argued, is the reason for the rapid build-up in funding for US/ECRE that started in 1989 and continued through last fiscal year. Further to the argument has been Congress's strong urging in its funding legislation for renewables that US industry be used at the development instrument. This converged with Sklar's strategy to promote US industry through US/ECRE.

There is no suggestion that Sklar is involved in any personal improprieties, but that this special position allowed US/ECRE to operate in a rather independent manner that would not be tolerated in other contractors or cooperators.

Even without having a strong hold on USAID's renewable energy budget, Sklar is perceived to have the intelligence, vision, personality, and charisma to strongly influence, and, perhaps, manipulate, the managers of the government agencies that have renewable energy programs. This includes DOE, EPA, and DOC as well as USAID. This aura of influence is sometimes referred to as the "Sklar Zone" by those in the renewable energy community both in and out of government.

## Conclusion

There is no question that Sklar's lobbying on behalf of the renewable energy industry has been very effective. However, it should be pointed out that his success in convincing Congress to allocate funds for renewable energy causes, is based on a different form of influence than most special interest groups. Whereas most special interests are able to control either large blocks of votes or large campaign fund contributions, the strength of the renewable energy coalition in Congress is derived from the grass roots popularity of renewables with the American public. The renewable energy industries in the US are small and under capitalized. As an industry group they would have little political clout. The public sees renewable energy as the key to resource limitations and environmental preservation that gives the industry's lobbying efforts the power they display. Sklar has been able to channel this grass roots support for renewable energy in general into financial support for the programs and projects favored by the renewable energy industries. Generally, assistance to the industry, or programs favored by industry, will advance the adoption of renewable energy and is, therefore, in the public, as well as the special, interest of the industry.

Also, key to Congressional support were several directives written into the legislation that urged USAID to collaborate with US business interests working in the renewable energy field. G/ENV/EET received a good deal of pressure at that time to support US/ECRE.

Sklar has been an eloquent, committed, and visionary spokesman for renewable energy for more than a decade, and his personal contribution is unquestioned. However, we believe that renewable energy interests would continue to attract strong support in Congress even without the Sklar persona.

### **3.1.2. Sklar's Influence on USAID Programs**

#### Findings

In 1989, USAID began the transfer of the REAT program from the national laboratories and a few select contractors to ECRE. There is no doubt that Sklar and his budget influence were largely responsible for this shift. However, this does not mean that the shift was contrary to the project management wishes. The renewable energy programs in USAID, which had been large in the 1970s, suffered in the 1980s from the de-emphasis of the Reagan Administration and to some extent from the bad press from some of the demonstration projects of the 1970s. There was also a slow but general movement from R&D and demonstration projects in the 1970s and early 1980s to more commercially oriented programs. This contrasted with the Reagan Administration's shift of the DOE renewable energy programs from commercialization to long-term, high-risk R&D that was occurring about the same time. With the shift to commercialization, the direct inclusion of the US renewable energy technologies industries in the programs made sense. In addition, in 1990, the M/OP was urging the program offices to reduce the number of contracts and agreements it had to deal with because M/OP was overloaded even

then. Thus the strategy of a large agreement with a multifaceted organization like US/ECRE was attractive.

Sklar argued, in 1989, that USAID was already calling upon his organizations to provide industry expertise and input so a cooperative program with US/ECRE would formalize that dependence and facilitate better cooperation. When USAID accepted this argument and began a formal agreement with US/ECRE it is probable that neither USAID or ECRE realized how much the program would grow, or how much time and resources would be spent on developing the US/ECRE organization and its member associations.

US/ECRE began as a small informally organized and managed coalition of several renewable energy technology associations, but in a few years its budget expanded to several million dollars per year. At first, it was totally unprepared, and seemingly unwilling, to deal with the responsibilities of managing such a large government sponsored operation. This resistance led to rather poor relations with the M/OP. In many ways, it was the insistence of M/OP that US/ECRE adhere to financial management and accounting practices generally required of large government contractors, that led to the growth of the US/ECRE and the resulting high overhead burden on the REAT project. The question of how well M/OP's pursuit of cost accountability served the interest of the US taxpayer remains to be answered.

## Conclusions

The agreement between USAID and US/ECRE was undoubtedly the result of Scott Sklar's influence with Congress. However, it appears that USAID was a willing participant and considered that the agreement served their program well. The formalization of the working arrangements increased the cost of doing business which had not been anticipated.

### **3.1.3. Current US/ECRE - USAID Relations**

#### Findings

In 1993, Scott Sklar, who was then filling at least three important jobs as lobbyist, director of SEIA, and director of US/ECRE, resigned as Executive Director of US/ECRE and the board appointed Judy Siegel, then a consultant at Meridian Corporation, as president. Although this change did not really lessen the influence that Sklar had on USAID programs, it did result in a management structure at US/ECRE that was more responsive to the demands of M/OP and more willing to take direction from the program manager at G/ENV/EET. The transformation did not occur overnight, however. It took Judy Siegel nearly two years to put in place the management and accounting structures that could meet the technical and financial reporting requirements of USAID.

## Conclusion

We now see US/ECRE as a competent, professional organization with capable staff and good management and accounting capabilities. However, the degree to which this management competence has improved the effectiveness of the organization in meeting its goals of expanding the use of renewable energy technologies in developing countries and creating opportunities for American business is unclear.

### 3.2. US/ECRE— Scope of Work

#### 3.2.1. Consistency of Purpose and Goals

##### Findings

The stated goal of the REAT project from the July 1985 Project Paper was "to assist selected developing countries in meeting their energy needs for development through the expanding deployment of economically viable renewable energy options." The original project plan placed emphasis on the development of portfolios of "bankable" projects and contained a clear commitment to work with U.S. industry, the private sectors of developing countries, and especially, with the international banking institutions, to develop projects that would be sustainable once USAID assistance ended.

According to the program description that accompanied the first agreement, August 1, 1990, the goal of US/ECRE is "to promote domestic and international trade and investment in renewable energy." The stated purpose of the agreement is to "support and help expand US/ECRE's activities in renewable energy training, information dissemination, and international trade for those regions and applications where US renewable energy technology can support local development goals in a economic and environmentally sustainable manner."

Thus, even with the explicit inclusion of environmental considerations, the goal of the agreement is certainly in line with that of the original REAT project paper. The main difference between the original Project Paper and the first US/ECRE agreement, is that the agreement no longer contains any mention of objective indicators such as portfolios of "bankable," implemented, or managed renewable energy technology projects. This is discussed further in this report in the section on accomplishments.

##### Conclusion

The description of work contained in the agreements between USAID and US/ECRE are in agreement with the purpose and goals of the Project Paper. The two organizations had every reason to seek to work together to accomplish their mutual goals.

### **3.2.2. Planning and Annual Work Plans**

#### **Findings**

We find no evidence that separate work plans were filed for the first agreement although they were specified. It may be that everyone agreed that the proposal's description of work would suffice. Work plans were filed for the second and third agreements. The initial year's plans follow the agreement proposals quite closely.

The question of what formal procedure US/ECRE follows to establish its budget estimates has been raised by M/OP. The current practice is to request budget submissions from the subcooperators or member associations and to integrate those requests into a US/ECRE plan.

The process may have been quite different in the early years of the agreement. The associations certainly had input to the process, as seen by the events and activities that had one or another association as the principal sponsor and implementor -- the annual AWEA conferences for example. However, there is no doubt that Scott Sklar was in complete control of the actual allocation of funds. In some instances, he appears to have exercised this power over the objections of all or most of his associates within US/ECRE and the member associations, e.g., the CREST building incident which is discussed below.

#### **Conclusion**

Work plans are now generated in a straight forward manner from inputs supplied by the various participants and budget guidance from USAID. Earlier work plans may have been more centrally controlled.

### **3.2.3. The Approval Process**

#### **Findings**

Approval of work plans, or more accurately, the delays in such approvals are reputed to have played a major role in creating a variety of schedule and payment problems for a number of participants in the REAT and the BEST programs. In Table 1 we have listed our best information on the due dates and approval dates for the work plans required as a part of each agreement (multi-year agreements required work plans for each year).

Table 1 indicates that no work plans were filed until the first year of the second agreement. That work plan was submitted in December of 1993, but was not approved until April 8, 1994. This delay is blamed for a series of problems that eventually resulted in cooperators not receiving payments due for six to eight months after the work was done, and, as a consequence valuable participants went for months without salary. As a result of this delay, the third agreement carries the special provision that if the project officer does not approve the work plan in writing within 45 days, the plan will be approved by default. The work plan for the second year of the

second agreement was submitted one month late and we have no date for its approval. A further insight into the work plan approval process is provided by the project officer,

"US/ECRE has turned in workplans late; I have responded with comments after a long period of time that was certainly not quick enough, but partly caused by the fact that I judged there to be an excessive number of problems to address; US/ECRE has taken longer than desirable to come up with a second draft; I have taken longer than desirable to respond with a final review and approval; and somewhere in the middle of that we have been dependent on Missions getting back to us with approvals for country-specific activities. Depending on the particular people in each Mission and their circumstances or level of interest, we might receive Mission approval quickly or not, and they might have questions that require a response from me or US/ECRE."

Since the first year of the second agreement, the US/ECRE work plans have been quite detailed and have included a budget breakdown into discrete tasks, key personnel, and have milestones listed by quarter. There have been some complaints that even this information is insufficient, but it is difficult to see how such a complex program involving literally hundreds of participants (or beneficiaries) could be planned any more precisely. Many of the activities and events that make up the annual program are joint undertakings involving other agencies, other coordinators, other donors, or other governments. Planning such events does require a great deal of flexibility (or extremely long lead times).

While some of the delays in both submission and approval of work plans were inordinately long, there is little evidence that the delays were due to serious disagreements over the content of the plans. In fact, since the project officer held weekly meetings with the cooperators to coordinate activities and resolve problems, it is reasonable to assume that both parties were in agreement over the work in progress during the protracted periods in which there were no approved work plans.

## Conclusion

Work plans have, and still, suffer from a long and protracted approval process. On the one hand, the level of detail pursued by the program officer appears to have been extreme, while on the other hand it also appears that inaccuracies and other problems with the plans provoked this level of detail. Still the delays, by both parties, have caused serious implementation problems.

### **3.2.4. Reporting of Progress and Accomplishments**

#### **3.2.4.1. Summary of Reporting Requirements**

## Findings

Table 2 shows the reporting requirements for all types of reports required of US/ECRE for each of its three agreements with USAID.

Note that the initial agreement did not require reports or technical documentation other than the work plan. It required quarterly financial reports, and it specified the distribution and format of any "program reports," but did not specify any requirement for program reports. Reporting requirements were not changed in the modifications to the agreement for the second and third years. Thus, the agreement required virtually no reporting of progress, status, or results for the first three years.

The second agreement went to the opposite extreme. It required annual work plans, quarterly, annual, and final reports; research reports upon completion of activities, special reports, training reports, and trip reports, in addition to the quarterly financial reports. The second agreement explicitly refers to the financial reports as being in accordance with "Cost Reimbursement" accounting.

The third agreement spelled out specific dates for the work plans and specified new requirements for the quarterly reports, but dropped the requirements for research reports, annual reports, training reports, and trip reports.

#### Conclusion

The reporting requirements specified in the three agreements vary considerably. They also lack continuity and performance indicators. More appropriate reporting is still a critical program need.

#### **3.2.4.2. Quarterly and Annual Reports**

##### Findings

As the table shows, US/ECRE submitted its first nine quarterly reports on April 1, 1996. These reports were obviously not prepared on time which US/ECRE attributes to staffing problems, late submissions from subcooperators, etc. In its response to a draft of this document, US/ECRE says that it believed that its weekly meetings "supplanted the need for quarterly reports." On one level this can be seen as program management placing little value on these reports.

Quality of a status report is difficult for anyone but the project officer to assess. The usual measures of quality for status reports are its timeliness, clarity, and accuracy. Form, style, and readability may not matter much if the report will only be read by one or a few people who are already familiar with the program. Our interviews lead us to believe that the quarterly reports are not read or seen by anyone outside G/ENV/EET. The reports are usually skimmed by the program officer, and read more critically and in more detail by junior staff members. The critical review, if it occurs at all, is more in the nature of an attempt to catch the cooperator in an error, inconsistency, or inappropriate activity than to understand the status of the program or the implications of the most recent events. This attitude on the part of G/ENV/EET is partly due US/ECRE's problems in proposing and funding activities outside of their cooperative

agreements, as well as to the fact that quarterly reports have typically been so late that they can have no management role. To this can be added the tendency towards 'boiler plate' reporting where the same accomplishments are mentioned quarter after quarter. A rationale for the critical review of material submitted months or years after the activities were completed was that the G/ENV/EET staff had found numerous errors in those reports, and, thus, lacked confidence in US/ECRE's reporting. We note, however, that the reports must have been prepared by individuals who may not even have been involved in the program at the time the reports were due, and who probably placed a low priority on reporting history. It would have made more sense to devote the effort to reporting and reviewing current events.

The use of an informal reporting system, which is also mentioned in several other sections of this report, was also in existence at that time paralleling the more formal quarterly reporting. This consisted of the receipt, analysis, and acceptance or rejection of specific 'deliverables' called for in the work plans.

#### Conclusion

The current use of quarterly reports as the principal formal management reporting tool for the project is questionable. The quarterlies do not seem to be serving the needs of USAID or of US/ECRE.

### **3.2.4.3. Semi-Annual (SAR) or Accomplishment Reviews**

#### Findings

Another element of G/ENV/EET's informal reporting mechanism is referred to as the Semi-Annual Review (SAR). (This is not to be confused with USAID's traditional SAR documentation.) For the purpose of clarity, we will refer to it as an accomplishments review.

The accomplishment reviews perform the function of keeping the entire G/ENV/EET management and staff informed about the status and accomplishments of the REAT/BEST projects. In addition, the innovative approach initiated by the project officer, in which elements of the review are prepared and presented by program participants other than those who have primary responsibility for the work, requires additional intra-program cooperation. The preparer/presenter must usually gather information on some aspect of the project from others within their organization or from other cooperators on the status and accomplishments of their work and perform an independent analysis and presentation of that aspect. The cooperators agree that this stimulates cooperation and understanding of the complementary activities of the entire program, and they do not object to the additional time and responsibility the system requires.

The presentations and reports are in viewgraph form and seem to be pertinent and of improving quality. The review seems to contain more quantitative and reflective information than do the quarterlies. In a recent review we saw an attempt to report on the progress of the program using some of the quantitative indices of performance, such as the number of bankable projects, the

number of privately financed projects stimulated by the program, the return on program dollars invested, and the average cost-share with industry. Unfortunately, the presentations still contain a lot of goals and plans that have been repeated for many years, which leads some of the internal audience to complain that they have been hearing the same thing for five years.

#### Conclusion

Despite some minor criticism, the accomplishment reviews are obviously the most useful management report currently being generated and should be continued.

#### **3.2.4.4. Other Documents**

##### Findings

In addition to the required reports, the cooperators publish reports of value to certain audiences in developing countries and in the U.S. renewable energy technologies industries. We reviewed a number of US/ECRE publications including several slick paper multi-color brochures, one study report, and a few issues of 'US/ECRE On the Road,' a newsletter published occasionally. All of these publications are attractive, well written, and well illustrated. They are apparently targeted primarily at decision makers in developing countries who know little of the renewable energy technologies or the opportunities for their use. If this is the target audience, however, it would seem that some of the publication would be available in other languages, and that a real effort to get the publications into the hands of the target audience would be obvious. The only multi-language publications we are aware of from US/ECRE are the multi-media CD-ROMs distributed by CREST. Also, we know that CREST makes a strong effort to make its on-line and CD-ROM information available to individuals in developing countries through the Internet, e-mail, and other channels. We also note that the US/ECRE publications tend to deal with the technologies and sometimes events, but some of the member associations put out newsletters that concentrate on opportunities for their members. SEIA's 'SunFlash' for example, always includes trade leads.

##### Conclusion

While the program has developed some good documents, these may not have reached their target audiences or had the desired impact. More effective distribution in appropriate foreign languages is called for.

#### **3.2.5. Program Accomplishments**

##### **3.2.5.1. Outputs and Indicators from Project Paper**

##### Findings

The original objectives of the REAT Project Paper included:

- Assess of priority RET needs in industry, agriculture, and rural development,
- Collaborate with USAID missions, regional bureaus, and other international financial institutions,
- Encourage joint ventures among U.S. and the local private sectors to manufacture, market, and maintain RET systems in developing countries, and
- Generate credible RET information and high quality documents for world-wide impact,
- Strengthen institutional capabilities in developing countries through training programs.

The first phase of the REAT project, i.e. from 1985 through 1990, was carried out mainly by the U.S. National Laboratories, and a few private contractors.

The listed Outputs of the project included:

- High quality documentation
- Training manuals and monographs
- A comprehensive computer database on RET and applications
- Interim and final assessment reports
- A final report, including lessons learned and promising applications of RETs

The Logical Framework Matrix for the project, (Table 4.), goes beyond these outputs and specifies that eight country investment portfolios, eight major technology evaluation reports, five case studies, training monographs, a database, and five workshop/conferences are expected.

The evaluation criteria for the project include:

- The portfolio of successfully financed, implemented or managed projects and their impacts;
- The portfolio of other implemented projects with significant RET components;
- An improved national renewable energy database;
- Strengthened institutional planning and policy-making;
- Improved skills of LDC energy professionals;
- Policy innovations that contribute to the project's goals and objectives;
- A positive image of the project by host countries; and,

- Enhanced importance of USAID missions and the nature of follow-up projects.

#### The First US/ECRE - USAID Agreement

According to the program description that accompanies the first agreement, the goal of US/ECRE is "to promote domestic and international trade and investment in renewable energy." The stated purpose of the agreement is to "support and help expand US/ECRE's activities in renewable energy training, information dissemination, and international trade for those regions and application where U.S. renewable energy technology can support local development goals in a economic and environmentally sustainable manner."

Thus, except for the explicit inclusion of environmental considerations, the goal of the agreement is certainly in line with that of the original REAT Project Paper. The main difference between the original Project Paper and the first US/ECRE agreement is that the agreement no longer contains mention of portfolios of "bankable," implemented, or managed renewable energy technology projects. Rather, the agreement details activities to be performed by US/ECRE including:

- Production of training and educational materials,
- Fielding of joint USAID/industry teams,
- Reverse trade missions
- Seminars and workshops, and
- Training programs.

#### Subsequent Agreements

Subsequent modifications of the first agreement (for years two and three) include more explicit details of planned activities and tasks, but contain no further discussion of goals, objectives, or indicators of success. The same is true of the second agreement (September 28, 1993), and the third (December 1, 1995): they contain details of activities and tasks, but no overall goals, objectives, or indicators of success.

We note, however, that in the past year or so, 'results indicators' have again become an important subject within the project. The semi-annual accomplishment reviews contain numerous references to such indicators and they are often based on bankable, implemented, or potential projects, rather than the deliverables of the activities and tasks described in the agreement descriptions and annual work plans. The program officer did acknowledge that the number of 'cost-shared agreements' funded had replaced 'bankable projects' as the principal measure of success. This shift, however, was not mention in any of the project documents reviewed.

## Conclusions

For the purposes of the evaluation, we have assumed that in the past failure to spell out USAID's interest in fielding renewable energy projects in the agreement documents was a tacit admission that the task has become more difficult, and that neither organization has the power to assure the creation of private sector projects. We assume that both USAID and US/ECRE have a strong motivation to encourage the development of projects, otherwise, how else will U.S. industries represented by US/ECRE benefit?

We cannot fault the cooperators for their failure to maintain and report on the indicators of success described in the original Project Paper since the requirement was never a part of the formal cooperative agreements. A lack of rigor in reporting requirements is a concern.

### **3.2.5.2. Current Indicators**

#### Findings

The REAT/BEST project shows a renewed interest in quantitative performance indicators. While the implementation of the NMS is no doubt the principal impetus behind this, the direction of the information may be attributable in part to indications that the program is finally beginning to bear fruit. Over the past year G/ENV/EET, together with the cooperators, have been attempting to identify critical performance indicators, including back-tracking to measure past successes. Nevertheless, according to the rules of cooperative agreements as interpreted by M/OP, the cooperators cannot be compelled to follow any particular format or provide information. Whether this is an issue or not will depend on the implementation of the NMS itself and its imposition on G/ENV/EET.

Efforts to influence the adoption of renewable energy technologies in the mid-1980s through the mid-1990s were severely disadvantaged by a combination of factors. Probably the most important was the low cost of oil. In 1984, when the project was planned, and the original logical framework was developed, the price of oil was still rising in the developed countries (although it had begun to drop on the world market), and no one anticipated that it would plummet in 1986 and remain low for another decade (see Figure 1 - World Price of Oil). The drop in oil prices resulted in a diminished interest in renewable energy technologies since they were then perceived as relatively more expensive. During the same period, contributions to developing countries by all donor nations, especially the US, were declining so that less total development assistance was going on. The renewable energy technologies were also suffering from reliability problems that were prevalent in the early demonstration projects, and the domestic industry was going through a huge shake out as a result of markets lost due to the discontinuation of the several federal tax incentive programs as well as the precipitous drops in the price of oil and gas. It was a time when much of the industry was struggling to remain viable and when resources for foreign market development were quite limited.

In addition, the dollar was strong in the mid 1980s which made exports in general more difficult (note that since the energy market for oil and gas has traditionally been a dollar market, the strength or weakness of the dollar does not have a big effect on the competitiveness of US technology relative to conventional fuels, but it does have a huge impact on the competitiveness relative to RETs from countries such as Japan or Germany).

One factor that turned around the fortunes of the renewable energy industries in the 1990s has been the global concern for the environment in general and for climate change in particular. Conversion to renewable energy resources is the cornerstone for any long-range policy for environmental stabilization and sustainability. Further, since the impact of the generation of greenhouse gases by fossil burning power plants is global, it is just as important to adopt renewable energy technologies in the developing world as in the industrialized countries. It makes more sense to adopt renewable energy technologies to meet new energy demand rather than to attempt to replace existing conventional energy infrastructure with RETs that generally require a high capital investment. Additionally, the reduction in the price of wind energy and photovoltaics and the maturing of the wind turbine industry has also taken place.

This combination of influences has resulted in more capital becoming available for renewable energy technology investments through a variety of sources. The World Bank with its GEF has been the most obvious, but even private sources are starting to express interest in renewable and energy efficiency measures world-wide. Of particular note is the emergence of international utility or energy service companies that are willing to bring modern technologies, private business efficiency, and low-cost capital investment to developing countries.

The projects have begun to expand tracking the impact of their efforts to produce several measures of success; some of which are well known and are used in this document. The part of the program concerned with grid connected power is attempting to keep track of installed new capacity in MW, while the part of the program concerned with rural electrification is more inclined to log the addition of electrified households or some more modest measure of capacity. The industry and financial sides of the program are more concerned with the dollar value of implemented or potential projects, and hence track potential projects from conception, through pre-feasibility, feasibility, financing, and implementation. With the variety of indicators available, and the uncertainty of early estimates of size and value of projects, it is obviously difficult to get a clear picture of the status of renewable energy technology in the market. It is even more difficult to attribute renewable energy developments or successes to specific REAT/BEST project activities. The gestation period for energy projects is usually quite long so the impetus for a projects may have been an event that occurred years ago, or it may take a decade to evaluate the full impact of current programs. In addition, one program or program activity can seldom take credit for the realization of a specific energy project. More often, a project is the result of many factors and influences. The REAT/BEST project activities may contribute to the realization of projects, but it is unlikely that they are wholly responsible. Thus, the quantitative measures of success that are quoted below and are presented by the cooperators in accomplishment reviews and other presentations, can be regarded as the most optimistic interpretation of the project's results. They are, nevertheless, the only quantitative measures that have evolved so far and are certainly better than nothing. In the future, the quality of the

measures of success could be improved by better tracking of the events that are associated with specific energy projects, including the activities of key decision makers. But such tracking would add appreciably to the effort and cost of the project.

Some sample indicators are listed below.

- Total Renewable Energy Capacity Installed-

Since their inception, the combined REAT/BEST Projects now claim to have been instrumental in the installation of about 368 MW of renewable energy power capacity. Most of this is from cogeneration in facilities fueled by biomass. Some 308 MW of biomass cogeneration plant output has gone on-line. Most of this capacity is from bagasse fueled sugar mills, but the total also includes some forest and paper product plants. The remaining 50 MW include a variety of wind, geothermal, and hydropower projects.

There is a significant amount of rural electrification undertaken by these programs. While the total amount of power capacity installed is not impressive, a significant number of lives will be improved by the relatively small installations of home lighting in villages in some of the world's poorest regions. To date, the project only claims a total of 1550 households have been electrified by the PV lighting programs, but there are programs in progress that could lead to about 7800 more. The potential market for rural electrification using PV is enormous. Countries like India, Indonesia, Brazil, South Africa and others could absorb hundreds of millions of small, residential PV systems in the coming decade.

- The Pre-installation Pipeline

The gestation period, i.e., the time required to move a project from inception to commissioning is quite long -- even renewable energy technologies which are generally much more quickly brought on-line than large conventional energy projects may take three to six years to complete pre-feasibility, feasibility, design, financing and construction of moderate-sized renewable energy technologies. The delay in realizing such projects is more often than not the time required to secure financing. This is one of the major barriers to more rapid adoption of RETs world wide, and overcoming delay is one of the primary objectives of the project. At this time, it appears that the project has been only minimally successful for some of the reasons discussed above. The result of the rather long gestation period, however, is that there are always a lot of projects in the pipeline--somewhere between pre-feasibility and construction.

US/ECRE estimates that the 'near-term project portfolio' is worth over \$1.5 billion, which would imply some 1000 MW capacity. Unfortunately, most of this total is in the preliminary identification stage, i.e., pre-pre-feasibility. Many of these potential projects have been identified by US/ECRE-supported trade missions: the latest accomplishment review lists project identified in Brazil (\$400 million), Philippines (\$260 million),

Indonesia (\$250 million), India (\$130 million), Caribbean (\$100 million), and Bolivia/Peru (\$30 million) worth over \$1.1 billion. In addition, the review lists about \$56 million in projects that have been identified in 'reverse' trade missions. Although it is probably true that there have been more trade missions including more participants than reverse trade missions, the data might suggest that vendors tend to be considerably more optimistic than buyers.

In the more concrete category of pre-investment awards, the review indicates that 30 separate projects have been studied since 1991 supported by approximately \$1.4 million cost-shared dollars. In 1996 REAT funded 4 project pre-feasibility studies costing \$134,530 which could result in eventual construction of 61 MW of new renewable energy technology capacity. The total capacity of projects somewhere in the pre-investment pipeline is 261 MW.

We do not have any information on the financing of the 358 MW of installed capacity. Some part of it may be included in the approximately \$10 million in construction funds that have been leveraged by the Environmental Enterprises Assistance Fund (EEAF) for eight RET projects at a cost to USAID of \$1.265 million (7.7 :1 leverage). (The EEAF was established by Winrock under the BEST project and later 'spun-off' under its own leadership and funding sources.)

- **Market and Human Capacity Development Activities-**  
In addition to direct project identification, feasibility, and financing efforts, US/ECRE claims as accomplishments the completion of numerous activities aimed at improving the market for RETs or building the human capacity for understanding, evaluating, and designing RET projects in developing countries. The current list of accomplishments for the current agreement includes: 15 workshops, conferences, trade missions or tours; 7 technical or economic publications, 11 activities in support of the multilateral development banks consideration of RET/EET loans; 9 training activities for more than 1000 individuals from developing countries; preparation of multimedia and Internet interactive software for education and training; 3 activities to promote the involvement of U.S. utilities in developing countries; 5 activities to assist developing countries with energy policy reform; and support for the activities of 5 in-country REPSO operations.

We tried to evaluate the effectiveness of some of the market development activities through telephone interviews with some US companies that have taken part in such activities. The response was almost universally favorable although not without numerous suggestions for improvement. Most of those interviewed participated in one or more trade missions in which part of their expenses were covered by the program. All but the largest companies indicated they would have been unable to participate in such activities on their own, and most indicated they had, or expected to, benefit from the trips. Many of the smaller companies were happy with the pre-travel and in-country arrangements made by US/ECRE, but often expressed a desire for help with follow-up activities. Larger companies found the contacts made for them by US/ECRE or REPSOs to be less

valuable, especially after an initial visit, because they have the resources to expand contacts on their own and to follow-up initial contacts.

Some of the interviewees had also been involved in reverse trade missions and had received orders as a result. A few of those contacted had participated in training programs (technical experts) and thought those activities were worthwhile. A few of those contacted had been involved in more extensive activities such as cost-shared pre-feasibility studies or the program of travel assistance for small business were highly critical of the red tape and excessive proposals required to secure such support. More than one indicated they would not go through the process again. One respondent indicated his company spent more on the proposal than the contract provided. It was not always clear to the respondents or this interviewer which organization was actually responsible for the procedures and requirements they found onerous. The cooperator, either US/ECRE, or Winrock, usually represented the requirements as imposed by USAID.

We wondered if any of the programs designed to assist businesses work in developing countries were, in fact, restricted to members of US/ECRE's member associations as stated in some of the program documentation. US/ECRE assured us that participation was not restricted to members, but that some non-members, "might not meet their selection criteria."

## Conclusion

A lot has been done, but it is hard to attribute success to any one activity. A lack of consistent performance indicators further increases the problem. Various attempts have been made in the past to track certain types of information but often the time lag between a specific action and an expected result can be lengthy.

### 3.2.6. Management

#### Findings

##### The Sklar Era

When US/ECRE signed its first agreement with USAID in 1989, it had no full-time employees. Scott Sklar served as Executive Director of US/ECRE and as Director of SEIA, the Solar Energy Industries Association, while also functioning as its chief lobbyist. It was Sklar's practice to handle all contract management and managerial roles for both organizations himself. He was able to do this because he insisted on very simple contracts. All his previous contracts or grants with DOE, DOC, and EPA were fixed price contracts, generally with only one simple deliverable. He handled subcontracts the same way: all fixed price contracts with a simple deliverable. The subcontractors submitted the deliverable, and if it was accepted, they were paid. Subcontractor quality control was maintained by US/ECRE (Scott Sklar or one of his designates

in one of the member associations.) on the basis of deliverables. If deliverables did not meet expectations they might be returned to the subcontractor for revision or the subcontractor might not be offered further work. Little or no direct oversight of subcontractors was exercised.

Sklar saw no reason to handle the USAID cooperative agreement differently. He insisted, and does to this day, that the agreement be a fixed price grant and that, in fact, it was. Therefore, there was no need to spend a lot of time and staff effort on accounting and management. The money was better spent on making things happen in the field, he argued. Even though the amount of money from USAID increased from \$250,000 in 1990 to over \$2.5 million in the next two years, Sklar saw no need for full time managers. Ken Sheinkopf, who was working full-time with SEIA on a variety of jobs was assigned the task of overseeing US/ECRE's contracts and dealing with USAID. Other member association staff members, and even staff of some of the subcooperators, were assigned management roles for some of the subagreements. On one occasion, this led to a situation where employees of two subcooperators were assigned the responsibility of managing each other--a clear conflict of interest in USAID's view. Sklar argued that US/ECRE was, in fact, the sum of its parts, and it was efficient and cost effective to take advantages of the managerial skills of association staff. He did, however, correct the reciprocal management arrangement.

We find no evidence that M/OP knew the limitations of the US/ECRE staff and management resources until much later. The M/OP seemed to operate as though US/ECRE was just another multi-million dollar defense contractor with a building full of accountants and lawyers who had nothing else to do but make sure that all FAR were followed. Eventually, the disparity between the way US/ECRE managed their money and work, and M/OP's expectations became obvious and an increasing source of conflict. However, it was not until Scott Sklar stepped down as US/ECRE director in 1993 and the US/ECRE board hired Judy Siegel to take over, that the organization made any real attempt to manage the agreement as the cost reimbursable agreement M/OP had always insisted it was. Scott Sklar remained with US/ECRE as the vice-president for administration and finance.

## **CREST Building**

### **Findings**

One example of the lack of adequate communications and management control can be found in the incident involving rental of commercial space in Washington DC for a renewable energy training center and exhibit hall. Sometime in 1993 or late 1992, US/ECRE proposed to develop a training center and exhibit area in a building on Massachusetts Ave. across from Union Station and very near the Capital. The building was a distinctively triangular shape located on an important intersection. The concept was that the building would provide a show case of renewable energy technology to show foreign dignitaries and other visitors to Washington, and would also provide a working classroom for training of foreign and domestic decision makers, engineers, and technicians.

Both USAID and DOE were approached to support the cost of restoration and lease of the building, which was to be shared by private contributions. The intent was to renovate and then purchase the property. In the third quarter of 1994, according to US/ECRE quarterly reports, DOE notified US/ECRE that they could not support the building lease although its not clear if they had been contributing. USAID had agreed sometime earlier to allow the use of REAT funds to pay the building lease during the period of restoration which was expected to take about 18 months. Apparently the building was in pretty bad shape and needed extensive repair and renovation, the contributions for these repairs did not come in as rapidly as expected, and the process went on considerably longer than expected.

This was a period in which no progress reports were required or just at the beginning of the second agreement before any reports were submitted (No report was actually submitted until April 1, 1996 so there is little documentation of the problems that US/ECRE was having bringing the building to a state of readiness and finding private contributors. Three of the reports submitted in 1996 mention donations of lighting and some tests of PV equipment, but other than the decision of DOE not to support the lease, there is no mention of trouble.

Nevertheless, in early 1995 the program officer inquired as to the readiness of the building and was told that its renovation was months behind. This led to a decision by G/ENV/EET to make finishing by the end of 1995 a condition for further rent payments. According to the program officer, Scott Sklar agreed.

In October 1995, Sklar informed the program officer that due to shortfalls in funding the project had been scaled down and part of the building had been sublet. This led to an audit by the Inspector General (IG), a prohibition that the program officer not deal with US/ECRE concerning the building, a positive finding for US/ECRE, the resubmission of the CREST's annual report for 1995, and was an unpleasant incident for the project officer as well as being an extreme burden on his time.

The result was that USAID paid rent on the building much longer than expected and possibly paid for some of the repairs as well. There was disagreement between US/ECRE and USAID over whether the project officer had been kept informed of the problems and status. When the project finally collapsed, USAID had spent close to \$400,000 on a building that never trained a person or opened for public exhibits.

We have not been able to determine just where the communications broke down. Although there were no quarterly reports during that period, US/ECRE did meet with the project officer frequently, so there must have been ample opportunity for communication. The project apparently started in SEREF, SEIA's not-for-profit educational foundation, however, it appears the whole operation, from concept to demise, was a one person show. It is interesting to note that when, contacted for this evaluation, some of the people who were at CREST or SEREF at the time of the incident and later, did not know of the IG investigation and claimed to be unaware of the particulars of the episode.

## Conclusion

This incident reveals some of the problems of not having an adequate written reporting system. Such a system would have at least shown whether or not the problems were reported in a timely way. However, there was an oral reporting system in place at the time so the issue is really one of transparency or judgement.

## The Siegel Years

When Judy Siegel was hired as president of US/ECRE by the Board of Directors late in 1993, ECRE had no full time employees, no management information systems, and no DCAA (FAR) approved accounting system. USAID finally recognized this and did perform an accounting capability analysis at the beginning of the second agreement to help US/ECRE develop a system that would comply with the FAR. US/ECRE reports that audits from 1994-1996 are being completed according to the requirements of OMB circular A-133 and that DCAA auditors have found no serious problems with their systems.

With a lot of pressure from M/OP, Siegel began to add staff and instigate management and fiscal controls to bring US/ECRE operations into compliance. However, it was apparently not a very smooth or swift process, and conflicts continued for at least two years. The staff has now grown to 26 people (see Figure 3). This is partly due to a decision in 1995 to make the international staffs of most of the member associations into US/ECRE staff, but the number of financial and administrative staff has increased greatly beyond that. The budget for "management" increased from something like \$50,000 per year to more than \$400,000 per year. We have to ask if the tax payers' interests are being well served by this FAR compliant management system.

## Current Status

In the opinion of the team, the current management staff of US/ECRE is competent, professional, and responsive to the requirements of the agreement. We do not sense the lack of cooperation or contentiousness that may have characterized earlier relations, but rather a genuine attempt to cooperate fully with the program and procurement offices at USAID and to manage operations in an efficient and professional manner.

We have seen a notable improvement in the delivery of required reports, preparation of work plans, and notification of activities that require USAID approval. This last type of reporting is now regulated through a system of G/ENV/EET and mission approvals. There have been some mistakes, even recently, in distinguishing between work done with USAID funds in non-assisted countries, and that done with money from other sources.

We also note that we were not able to determine, as the question was posed by USAID staff, if the management information and accounting systems now in place at US/ECRE actually do allow for a completely accurate accounting of how funds from several government sources are actually spent on a project that may involve joint funding of work in some countries that are

eligible and some that are ineligible for USAID support. However, we see most of these cooperative arrangements as synergistic and assume that both USAID and the other government agency benefit from the integration of funding.

## Conclusions

US/ECRE has evolved from an organization in which management was minimal and relied upon the integrity and commitment of the participating individuals and organizations to one that, while competent and professional, may be seen as expensive and possibly burdensome. There is a need to reach a reasonable compromise.

### **3.2.7. Information Dissemination**

#### Findings

The problems with the lack of distribution plans for major publications was discussed above in the section on reporting. On the positive side, we find the World Wide Web site, the multimedia CD-ROM packages, and the interactive software packages developed by CREST useful, appealing, and cost effective. Electronic distribution has some limitations for developing countries, but the world is changing rapidly. India, for example, is now a hot bed of Internet activity. Even if it were necessary to provide computers to target audiences in some developing countries, the use of CD-ROM for Internet-based information systems and interactive software is likely to be a more cost effective and enduring method of providing training, guidance, and commercial information than traditional methods involving expensive travel and printing.

#### Conclusion

The bright spot for information dissemination is and will continue to be electronic publishing. CREST is doing important work in this area and should have the program's continuing support.

### **3.2.8. Leveraging of Funds Beyond G/ENV/EET**

#### Findings

In the latest accomplishments review, \$28.0 million worth of Mission renewable energy programs were identified that could presumably be partially attributed to the existence of the REAT/BEST projects. The time period and geographical distribution of these programs was not stated. Our own field evaluation indicates that what little interest exists within the missions is largely due to the G/ENV/EET program. Unfortunately, except for India, Philippines, and the Dominican Republic, there is little mission interest or budget for renewable energy programs.

Figure 2 shows that the US has invested little in renewable energy assistance to developing countries in the period from 1979-1991. It ranked fourth behind Japan, Italy, and France. More recent data was not found, but anecdotal evidence would suggest the gap has widened.

In India, the Energy Office director estimates that 1/4 to 1/3 of the Mission budget is in energy - much of it in renewables. One of the largest renewable energy programs, \$3.1 million over three years, in the Mission's RECOMM project which targets hydro, wind, biomass cogeneration, and PV solar opportunities. There is also a smaller, \$700,000 leveraging in Indonesia through Winrock. Sections on Winrock and the Indonesia Field Report are attached. Another type of collaboration within the agency was the transfer of \$1.1 million in FY 1995 from the Africa Bureau for work in South Africa and a total of \$960,000 from the LAC Bureau for work proposed in Brazil and Central America. In FY 1996, the Brazil Mission also transferred \$40,000 to US/ECRE.

Operating Year Budget (OYB) transfers appear to have been used to fund at least two of these initiatives.

US/ECRE receives substantial funding from DOE, DOC, and EPA. We have heard estimates that up to 1/3 of the funds come from sources other than USAID. The availability of non-USAID funds allows US/ECRE to do work in countries that are not eligible for USAID support, but it also augments the work done in all countries.

#### Conclusions

The REAT program has not experienced the level of support from USAID Missions that was anticipated in the Project Paper for reasons discussed in the Winrock section of this report. The program does enjoy substantial cost sharing of work with other Government agencies.

#### **3.2.9. Tracking of Expenses by Funding Source**

##### Findings

We have not been able to determine to our satisfaction if US/ECRE has a system in place to track expenses by funding source. US/ECRE says their new accounting system can do anything that is required. However, they have been unable to produce some of the financial data we requested without a major effort and a lot of manual searching. The question apparently relates to the ability to allocate expenses to the proper funding source when a jointly funded project performs tasks that are allowable for one agency but not for another or performs tasks in locations that do not qualify for funds under one of the sponsorships but are permissible by the other.

##### Conclusions

Determining the exact cost per funding source of a multi-funded has been difficult. If a precise breakout by funding source is not possible, then at least, proper recognition should be provided in the text of reports. If USAID wants to enter into jointly funded activities with other agencies and to claim credit for leveraging its funds, it might have to be prepared to accept a little ambiguity in who paid for what.

### **3.2.10. G/ENV/EET Management**

#### **Findings**

The management of the agency's renewable energy program is extremely hands-on while responding to one crisis after another. Due to the sheer burden of administrative responsibilities makes priority setting difficult. In the program officer's words,

"Project officers are expected to play multiple roles and answer to, or interact with, multiple players elsewhere in USAID or other federal agencies. Additionally, Washington-based project officers must interact with decision-makers in each of the USAID Missions in which that officer's program has activities. Most, but not all, of the individual demands placed on the project officer each has its own internal logic or justification, but the officers perceive the total volume of demands, fire drills, and meetings as unmanageable."

The inability to make managerial decisions in a timely manner has been most damaging to the program. Delays in approval of work plans have led directly to delays in payment of subcooperators for several months. The untimeliness of project management was tacitly admitted in the second US/ECRE agreement that stipulated that any work plans that were not approved by M/OP within 45 days would be considered approved. Even with this stipulation, cooperators apparently are reluctant to risk offending program management by taking actions that had not been explicitly approved.

Also, some present staff feel that they are not being used as effectively as they could be, and that they are assigned too many routine tasks that do not take advantage of their knowledge or experience, nor is it felt that enough responsibility is delegated.

#### **Conclusions**

G/ENV/EET management is understaffed and over burdened with administrative duties that impede its abilities to oversee the program in a timely fashion. The program officer also needs to improve his ability to set priorities, delegate work, and to make timely decisions on program issues. The level of detail in the 'due diligence' obligation of the program officer needs to be reconsidered.

### **3.3. US/ECRE Additional Findings**

#### **3.3.1. The Procurement Mechanism**

#### **Findings**

There are two problems. One is that the mechanism is a cooperative agreement, but M/OP really wants to manage the work like a contract. It seems clear that program management sought a substantial involvement in the day to day decisions of the project. In fact the second agreement

says as much. This degree of control is more appropriate for a contract than a cooperative agreement. Some cooperators and staff feel that there was inappropriate micro-management of the agreement. However, the nature of the program, the complexities of interacting with many missions, donor organizations, other government organizations, and NGOs may require a more hands on management approach than most cooperative agreements. In this case, substantial involvement should be taken in the broader sense. We also found that most of the cooperators and subcooperators accepted, and even sought, guidance and direction from the project officer, and that they valued his input.

We have the impression that one of the most important reasons a cooperative agreement was used as the implementing mechanism was to avoid the procurement obstacles and delays associated with contracts, e.g., competitive solicitations. Another plausible reason was Congress's encouragement of USAID to lessen the administrative burden on M/OP by seeking fewer, larger contracts and cooperative agreements.

The second problem is that the cooperator was not originally capable of managing a cost reimbursable agreement or contract in accordance with the FARs. They knew it and steadfastly refused to accept a cost reimbursable arrangement. M/OP just as steadfastly insisted on cost reimbursable accounting, but for several years let the matter go unresolved. US/ECRE kept saying "we will not accept a cost reimbursable agreement," and M/OP kept saying "you must," but the money never stopped flowing and no showdown occurred. The records show that this was not finally clarified until January 1995.

## Conclusion

The level of 'substantial involvement' is sometimes in debate. Cooperative agreements do not define this term. Fixed-Fee contracts are greatly preferred by US/ECRE and its member associations while cost-reimbursable agreements have been required since early on in the REAT project.

### 3.3.2. Allocation of Project Resources

#### Findings

Table 5 shows the breakdown of REAT funds budgeted by US/ECRE and Winrock for REAT activities through 1996. The table includes the Winrock funds for their NGO/REI work for 1996 for continuity since those activities were a part of the US/ECRE budget prior to 1996. This breakdown was prepared by the evaluators from the work plans submitted by the cooperators, and it does not agree exactly with records kept by either USAID or US/ECRE. We tried to associate budget categories with activities and/or subcooperators even though the descriptions used in the annual work plans changed from year to year. Even so, we are not sure we know, for example, if the funds labeled "outreach" in 1994 were budgeted for REETI or SEREF or someone else. The total budgeted amount for US/ECRE through 1996 according to our table is \$19,584,867. US/ECRE records show a slightly higher amount, and USAID records show

\$18,660,553 through FY 1996. If the 1997 budget figure of \$2,966,852, shown in the table, is added to this figure, the total of \$21,627,405 is considerably larger than our estimate or US/ECRE's records.

We also asked US/ECRE and Winrock to breakdown their actual spending in a way that allows us to determine more accurately where the money went. The requested categories included: funds to US industry, funds to associations, funds to local private sector, etc. What we hoped to see from this breakdown was an indication of how much of the money was spent on internal organizational development activities as opposed to money that was spent in the field on activities that might result in projects being financed and built.

The figures initially received from US/ECRE broke down the actual expenditures down by budget category. From these data we calculated that of the \$15,549,630 spent through 1996, 29.9 percent was for US/ECRE staff and overhead and other direct costs, 59.4 percent went to subcontractors and member associations, 3.6 percent to consultants, 6.0 percent for travel, and 1.1 percent for conferences and meetings.

It is interesting to note, however, that the percentage spent for travel by US/ECRE was similar to the percentage spent for travel by Winrock (5.2 percent), even though US/ECRE has paid the travel costs for most of the trade and reverse trade missions. We expected US/ECRE travel expenses, both relative and absolute, would be considerably higher than Winrock's. The fact that they were not tends to support the allegations we heard in all three Missions visited that Winrock sometimes engaged in non-essential travel. The spending for management, for the last three years was, 7.2 percent of the total budget for six years. The current organizational chart for US/ECRE shows a paid staff of 24 FTEs and 10 are listed as finance/contract/administrative support. This would imply that current management costs could be as much as 41 percent of the total budget (assuming all staff are paid equally) even though the major subcontracts have been shifted to Winrock. We have been assured by US/ECRE in their comments in response to an earlier draft of this report that several of the 10 people shown as administrative also have programmatic responsibilities so that our analysis likely overestimates the administrative cost.

At our request, US/ECRE did produce a breakdown for contracts, consultants, and travel, recipient by name. However, it was still not possible to distinguish between industry and association recipients, and, where associations were the recipient, it was not possible to know the ultimate recipient. We still believe that most of the budget was spent by the associations or the major subcontractors on their staff and activities rather than flowing through to U.S. industry or foreign nationals, but we cannot cite absolute figures or percentages.

USAID program staff expressed concern, based on budget documents submitted by US/ECRE in connection with its attempt to convert to a Fixed Obligation Agreement (FOG), that salaries at US/ECRE were increased when overhead rates were reduced and that they might be excessive. US/ECRE's explanation of the increased labor costs was that they had actually increased labor hours to be spent on some task in response to a reduction in overhead rate, but they had not increased salaries.

## Conclusion

We are not able to say exactly what portion of the funds have been spent in developing countries, but we suspect that it was relatively small. It also appears that management costs have increased greatly at US/ECRE--presumably as a result of the financial and technical reporting requirements of the USAID agreement.

### **3.4. Winrock International Scope of Work**

#### **3.4.1. Consistency of Program Descriptions and Outputs**

##### Findings

As was stated in the Introduction, the goal of both projects is to increase energy production; through economically viable options in the case of REAT, and through the use of biomass in the case of BEST. Likewise, at the Purpose level the focus of both projects is to stimulate, or lower the barriers to, investment in renewable energy systems. These Goals and Purposes were written in broad, flexible language which has allowed the cooperators and G/ENV/EET considerable flexibility throughout the implementation of these projects. It is therefore the finding of the team that the Program Descriptions attached to each of the Winrock Cooperative Agreements (BEST and NGO/REI), are totally consistent with the Goals and Purposes of the original project design documents.

This is not necessarily the case in terms of all the outputs specified in either project where many changes have occurred. However, these changes, or mid-course deviations, such as a switch away from research under the BEST project, the creation of the REPSO network, etc.), should not be seen as being in conflict with the original project outputs, but rather should be seen as the fine tuning of the cooperative agreements based on past experience and changing situations in the climate for renewable energy adoption. Additionally, even where changes in the outputs do occur, they are based on annual work plans which are influenced and approved by G/ENV/EET.

##### Conclusion

The Program Descriptions attached to each cooperative agreement are consistent with the original goal and purpose of each project. When changes in the outputs do occur, they have been mutually agreed upon between Winrock and G/ENV/EET as being beneficial to the implementation of both projects.

##### Findings

Yearly project planning has centered around the preparation of annual work plans (one for BEST and one for NGO/REI). These plans are consistent with the cooperative agreements and provide sufficient detail for the reader to understand the intent of the cooperator. Nevertheless, they can both be faulted in their presentation of financial data. The BEST work plan provides a very

detailed costing of activities and tasks within each activity, but lacks any kind of summary budget providing totals which can be tied back to figures in the cooperative agreements or project papers. The NGO/REI Work Plan on the other hand, lacks any cost data in its description of activities and tasks, but does provide the reader with a five quarter breakdown of proposed expenditures. However, these are aggregated by type of expense rather than by activity and task leaving the reader at a loss as to the relative weight/importance of each activity.

The greatest downfall of the annual work plans, however, is their lack of timeliness which greatly affects their credibility, as well as their ability to serve as a management tool for Winrock or G/ENV/EET. The BEST Annual Work Plan for the period 10/1/95 to 9/30/96 was finally approved and delivered on 8/16/96, almost 11 eleven months late. The NGO/REI Work Plan, on the other hand, covers the period 11/6/95 to 11/5/96 and was finally delivered and accepted on 11/27/96, almost 13 months after it was due. Three primary reasons account for this: the USAID funding cycle, the introduction of the NMS and the uncertainty as to how to implement it, and the inordinate length of time it takes for the work plans to be analyzed, criticized, redrafted, and finally approved. Indeed, most activities in recent years have been performed using unapproved work plans.

As part of the G/ENV/EET informal information system, which is mentioned in several places in this report, a process has been put in place whereby time-sensitive activities in a work plan can, and are, approved on a cases by case basis. This has allowed some activities to be implemented in a timely fashion.

The first impediment begins with the fact that agency-wide funding levels have been decreasing in recent years. This means that planners simply do not know how much money they will receive from one year to the next. This, when tied to the USAID appropriations cycle, with the fiscal year beginning in October, the money not being obligated until March to June, M/OP clearing off on it in August to September (at the end of the fiscal year.), and the cooperators submitting their work plans over the following winter. This means that there is a void of at least a year in the appropriations process which severely interrupts the planning to implementation process.

The second reason is much more difficult to analyze. In some cases it is due to the travel schedules of the G/ENV/EET and Winrock staffs, and to 'acts of god' such as the heavy snows of January 1996, and the federal government furlough over roughly the same period. Another reason is the lack of sufficient full-time professional staff at G/ENV/EET (and at M/OP in the case of BEST), to review and approve the plans. This has also led to a complete lack of timeliness in the approval process.

An additional issue on the value of the annual planning process is a generalized lack of data for the measurement of achievements under the work plans. The BEST work plan lists five variables/indicators against which Winrock proposes that the plan be evaluated. However, these indicators do not follow through to the quarterly reports and progress can not be measured in any obvious way. In the case of the NGO/REI initiative, the SOW specifically calls for an

Evaluation Matrix including indicators and an impact analysis of the activities implemented. However, no further mention of such a matrix is made in either the annual work plan or the quarterly reports. We have been informed that Winrock is to prepare an evaluation matrix by April 1997.

The SOW also asks the team to comment on staffing as it applies to the implementation of the annual work plans. The annual plan for BEST specifies the person, or persons, directly responsible for each activity. The NGO/REI work plan, however, does not contain any mention of staffing, nor of key personnel. More important, however, is the continuity of staffing over time, especially in one particular case. Until early 1996, one Winrock program officer was assigned to cover the NGO/REI program, the Brazil REPSO, and the Utility and Multi-lateral Development Bank Initiatives for both the BEST and NGO/REI projects. However, this person was reassigned to Brazil in early 1996 to develop the REPSO in that country. For several reasons six months passed before a replacement was hired to manage the NGO/REI program, and no one has been chosen or hired to manage either the Utility or the Multi-lateral Development Bank Initiatives as of the date of this evaluation. This has led to even greater delays in the Winrock approval process, confusion in the programming of activities, and almost complete neglect of the two mentioned initiatives.

## Conclusions

Annual work plans are true to the concepts of BEST and REAT, however they lack a clear presentation of financial information, expected results, or indicators of those results. Also, at least one change in the key personnel implementing the projects resulted in severe dislocations and even greater delays and confusion in the implementation process.

### **3.4.2. Reporting of Progress and Accomplishments**

#### Findings

Other than financial reporting, the original cooperative agreement for the BEST project requires the least program management reporting which the team has seen in any USAID-funded project. Indeed, only annual work plans and research reports are required and even these do not fit in the category of reporting documents, i.e., what has gone on in the past, is the project achieving its goals, etc. Annual work plans are blue prints for the future and do not contain information on past activities. Furthermore, only one annual work plan covering the period October 1995 through September 1996 was prepared, and as was mentioned above, was not finally submitted and approved until August 1996. Although Winrock staff and consultants wrote many high-quality, professional research reports, they are the result of specific research activities and in no way report on issues or progress concerning the project as a whole.

Prior to July 1995, Winrock did prepare several activity sheets reporting on various discreet activities in a somewhat detailed fashion. These were neither complete nor comprehensive, however, and do not provide a good record of project success.

This situation changed in July 1995 when Amendment 12 to the BEST cooperative agreement was signed. The amendment, among other things, requires that quarterly reports be submitted and that they are due 90 days after the end of a quarter.

These reports appear to be informative and well written, describing activities planned, activities realized, and reasons for deviation from what had been planned. They also appear to follow the "Monitoring and Reporting Requirements" as specified in 22CFR226.51. What the evaluation team does not understand, however, is the lengthy time frame for the reports. After 90 days another quarter has elapsed and the information provided has become history rather than serving as a tool for management.

In the case of the NGO/REI initiative the situation has been somewhat different. Quarterly performance reports were required in the cooperative agreement from the start (November 1995), along with annual work plans, a final report and special reports. The deficiencies of the annual work plan were discussed above, there have been no special reports to date, and the final report is not due until the end of the year. In the case of the quarterly reports, due to the transfer of the Winrock NGO/REI program officer and the lack of a replacement mentioned above, no quarterly reports were presented within the required 30 days after the end of a quarter, rather all three prepared to date (November 1995 to June 1996), were presented at once in November 1996. While the reports are well written and informative, and include sections on Winrock's activities as well as those of its four subcooperators, they lack almost any type of quantifiable data which is specifically called for in the cooperative agreement.

There is, however, an informal and oral reporting system which was put in place by the previous G/ENV/EET project officer and Winrock which has continued to the present. Each week the program officer chairs a review meeting (one for Winrock and one for US/ECRE), where the achievements, problems, and other issues of the week are discussed and decisions made. There are no minutes taken, however, and there is no written record of the decisions taken. There is, however, a written agenda prepared by both of the Cooperators. This dialogue was praised by most people interviewed with the caveat that they are sometimes too long. These meetings, however, do not replace the need for performance-based, quantitative documentation, nor do they provide for a record of the implementation of the projects involved.

## Conclusion

Reporting under the BEST project was not required until late in its implementation, since then, however, the quality and quantity of reporting has improved greatly with the exception of a lack of performance indicators. Reporting under the NGO/REI initiative was required from the beginning but does not come up to the quality and quantity of information required by the cooperative agreement nor provided by the BEST companion project. A severe lack of timeliness in the reporting process is also a major concern.

### **3.4.3. Program Accomplishments**

#### **Findings**

As has already been noted above, both the BEST project and the NGO/REI initiative lack information systems which would allow for centralized documentation on performance-based indicators. This situation is only made worse by the fact that the original outputs in the BEST Project Paper are no longer current, although we suspect that many of them were achieved. Additionally, the cooperative agreement for the NGO/REI initiative had no specified outputs, but rather expresses its objectives in terms of lists of tasks for each activity undertaken. However, these tasks provide no quantifiable information as to targets, and they can not be tracked through the quarterly reports due to timing slippages, name changes, and modifications in the work plans. Lastly, the quarterly reports for both BEST and NGO/REI all contain a section entitled "Accomplishments" for each activity discussed. However, these are more a description of actions taken than results achieved, especially of a quantitative nature.

This leaves the team with only the G/ENV/EET-inspired Semi-Annual, or Accomplishments, Review document prepared for a January 17, 1997 presentation. This document is only somewhat useful in that the data is presented for the entire renewable energy program, rather than by cooperator or project. As such, the reported accomplishments include the following:

- Winrock's activities in the development of the REPSO network in five countries which, among other achievements, has included the leveraging of Mission funds for a total of \$16.7 million (India \$10.1 million, Indonesia \$2.8 million, and Philippines \$3.8 million).
- Assistance with the design of \$11.3 million of additional renewable energy projects among USAID Missions.
- On-grid capacity installed resulting in 308 MW in biomass cogeneration, 50 MW from other sources, representing a total of approximately \$360 million in capital investments. Prior to Winrock's work with biomass there was no power being sold to the grid by sugar factories outside of the US.
- Off-grid applications installed at 1,550 households, 1 ministry, 1 national health office, and 2 clinics.
- Longer term off-grid applications including, the Namibian program which will provide loans to 200 households for solar power, the South African program which will provide loans for 2,500 solar systems, a program launched in the Dominican Republic with the potential to reach 5,000 households by the year 2000, and a replication of this program in Honduras which will reach 750 households.
- Assistance in the promotion and design of a World Bank project for renewable energy in Indonesia valued at \$300 million.

- Policy reforms that have resulted in the passage of new power legislation in Guatemala, the first small hydro PPA in India, the design of model PPAs in Indonesia, and the development of renewable energy guidelines by NAPACOR in the Philippines.

## Conclusion

There is little doubt that Winrock has accomplished a great deal over the years in its implementation of the BEST project and the NGO/REI initiative. However, the impact of many of its accomplishments is difficult to measure, especially policy and promotional efforts, and even more difficult to attribute directly to the cooperator's activities. Added to this is an almost total lack of a uniform, consistent, and performance-based information system for the tracking of project/initiative accomplishments.

### **3.4.4. Bottlenecks and Problem Solving**

#### Findings

Several issues are notable as having had an impact on the achievement of proposed outputs and/or deliverables. These include:

- A generalized lack of public or private investment capital--aside from sugar cogeneration--to develop a project once a positive feasibility study has been completed. Reasons for this include: relatively high front end costs and relatively long payback periods, a lack of successful renewable energy projects which can be used as an example/model and the relative price of oil which can turn a technically feasible project into an unprofitable one. Exceptions to this include a \$300 million World Bank line of credit for renewables in Indonesia (however, this credit line is available through the commercial banking sector on commercial terms and has not received the anticipated demand for its funds), and IREDA in India which has loaned \$500 million for renewable energy projects over the past ten years.

Furthermore, bankers are sometimes reluctant to accept the findings of feasibility studies and request that further studies be undertaken; this is especially the case with geothermal projects. Funding for these further studies is lacking.

- A much longer gestation period than originally planned for the preparation of a 'friendly' environment for the acceptance of renewables. This is mostly in regard to government policy decisions, although the acceptance of the technologies by the general public is also a factor. In all three countries which the team visited the comment was made that, "In past years the policy environment was hostile to renewables, but this is now changing." giving rise to optimism for the future.

- The completely unacceptable time lag that is required for approval of work plans, cost-share agreements, and other documentation has also heavily impacted on compliance with the required outputs and deliverables. In the case of work plans, we have noted that in both cases, with BEST and NGO/REI, approval has been received at the end of, or after, the planning period has expired. The fact that budgetary slippages have frequently occurred in the past, resulting in a pipeline of activities and financial resources is one reason that the activities have not come to a complete halt. The willingness of some of the staff of the REPSOs to work without pay is another.

In the case of the cost-share agreements, there are so many steps required and so many people who must pass judgement that several recipients and potential recipients interviewed by the team commented that they would never attempt the process a second time, and that they had spent as much money obtaining the cost-share approval as the cost-share itself was worth. The most appalling factor concerning this issue is that all participants in the process have known about this situation for years (Peter Borgo, Evaluation of REPSO Network, June 1995), yet no one has taken any measures to correct the situation.

- Benefits to US manufacturers and suppliers of renewable energy technology have not been achieved as planned. Reasons for this include: a lack of investment capital for renewable technologies, the relative strength of the US dollar, a lack of experience and knowledge concerning Third World cultures and systems on the part of US manufacturers and suppliers, and severe competition from manufacturers and suppliers in other countries, some of which receive subsidies from their governments.
- Related to the previous point, the operational style and constituencies of Winrock and US/ECRE are quite different. Winrock is a development PVO working in Third World countries and mainly concerned with agriculture, natural resources, and the environment. Its constituency is domestic and international donors and the people, governments and private sectors of developing nations. US/ECRE, on the other hand, is a consortium of renewable energy trade associations seeking to open up new markets and remove obstacles for its members. This fairly wide distinction in methodologies and constituencies has not made for a 'happy marriage' between the two organizations leading to potential inefficiencies and frictions rather than a spirit of cooperation.

Winrock has attempted to address these issues although a majority of them are, for the most part, outside the realm over which the cooperator has power to control. The lack of investment capital was identified as a critical problem many years ago and resulted in the Multilateral Development Bank Initiative which is included in both the BEST project as well as the NGO/REI initiative. Although a great deal of work has been performed under this activity, little has transpired to resolve the problem. Given its severity, however, we must question the wisdom of the decision to transfer the person who was in charge of the MDB initiative and then not fill the position for over a year. In all fairness, however, we must consider how much influence and persuasive

capacity Winrock has over the MDBs, as well as over the governments of developing countries which must ultimately support renewable energy programs through proposals to the MDBs.

A proper policy environment for the introduction and stimulation of renewable energy has been addressed by both Winrock and US/ECRE through a variety of means--drafting model legislation, conducting assessments, and demonstrating technologies, among others--which have produced significant results, but the process in most countries has taken far longer than originally expected.

The question of untimely approvals is one which is caused by all of the players involved in the approval process; Winrock (which requires approval at the REPSO level, the Winrock/Washington level, and the Winrock/Arkansas level), G/ENV/EET (which attempts to add technical analytical rigor to the process, but which has neither the staff nor time to do so), M/OP (which attempts to provide financial accountability to the process in the case of BEST and all subcontracts, but which also lacks the staff and time to do so), and finally the various Missions where BEST activities will take place. This last group of players can be timely if the activity is within their list of priorities, or lengthy if it is not. The most appalling element in this process, however, is an almost complete lack of regard for the client/intended beneficiaries.

The last two issues have been more difficult to address. Market access by US manufacturers and suppliers of renewable energy technologies is often determined by a series of factors, mentioned above, over which the cooperator has little control. Differences in operational philosophies could and should be resolved, but doing so might be quite difficult since it involves institutional integrity, territorial imperative, and professional will.

## Conclusions

Achieving the stated outputs/deliverables has been affected by several factors only some of which are within the cooperator's area of influence. The availability of construction financing once a project has successfully completed the feasibility stage is very restrictive and Winrock and the REPSOs have not achieved the hoped-for success in convincing public, private, and multilateral banks of the potential for investments in renewable energy projects. The policy environments in the countries where the REPSOs are located, in general, do not favor renewable energy technologies. However, both Winrock and US/ECRE have been successful in influencing policy in several countries and their policy environments appear to have improved. The hoped for benefits to US industry have not been achieved, although it is doubtful that Winrock could have been able to influence this situation. Time delays in the various approval processes have greatly frustrated potential project beneficiaries and reduced the quantity and quality of outputs and deliverables.

### **3.4.5. Management of Subcooperators**

#### Findings

Aside from subagreements with the two indigenous PEPSOs, the BEST project has only one subcontract for the Carbon Sequestration Research activity. The team was not able to meet with the subcooperators, although through the BEST quarterly reports it appears that the activity is achieving progress. No quantifiable data is presented, however, nor is there a time line for the completion of the activity. The Cost-Shared Feasibility Studies Agreements of the BEST program are also considered subcontracts.

The NGO/REI initiative implemented by Winrock has four subcooperators, which had also been subcooperators to US/ECRE under the REAT project until November 1995--IFREE, CREST, REETI, and VITA. Coordination between and among these organizations and Winrock begins with the preparation of work plans. Winrock specifies what it wants from the subcooperators, each one prepares its individual work plan, and then these are folded into the overall Winrock work plan. Priorities are set by Winrock and not the subcooperators. This has led to some disagreements in the past, and to the use of non-USAID funds to accomplish the subcooperator's priorities. All subcooperators interviewed felt that coordination had become better under Winrock, but that they still felt "left in the dark" concerning budgetary levels or their respective allocations. (Winrock points out that they were often also "in the dark" concerning funding levels, especially in recent years due to downsizing). Another observation concerned the weekly meetings held between G/ENV/EET and Winrock which the subcooperators are not invited to attend. This also perpetuates the feeling of being kept in the dark. A last note to this discussion is that in mid-1996, the subcooperators were informed that they could no longer communicate directly with G/ENV/EET, but rather are required to communicate through Winrock. This has led to frustrations and long delays in asking questions and receiving advice from the USAID technical office.

Winrock oversight of its subcooperators consists mainly of receiving deliverables, assessing their quality, and either accepting them or requesting alterations. This process carries through to compliance with USAID regulations on both the financial as well as the technical aspects of their programs. In the special case of IFREE, which grants funds for cost-shared feasibility studies, the Winrock program manager sits on the selection and approval committee providing both oversight and coordination. Nevertheless, this oversight and coordination is more on a case by case basis with no monitoring plan in existence to measure effectiveness or impact.

#### Conclusions

Coordination of the four subcooperators appears to be better now than two years ago. However, subcooperators continue to complain about the need for improved communication by Winrock. Additionally, there is no monitoring system in place to track performance of the subcooperators.

### **3.4.6. Information Dissemination**

#### Findings

Through both the BEST project and the NGO/REI initiative Winrock prepares and disseminates four types of information:

- Trade Guides for Renewable Energy for Costa Rica, El Salvador, Indonesia and Philippines.
- Quarterly Renewable Energy Project Information System (REPIS) printouts.
- Newsletters including the International Cane Energy Network (ICEN) Newsletter, the International Renewable Energy and Energy Efficiency Finance Network (IREEEFN) Newsletter, and the REPSource Network Newsletter.
- Special reports ranging from energy assessments, to feasibility studies, to model agreements and guidelines.

The trade guides are generally available through the REPSOs and the USAID missions which deal with the REPSOs. They become out of date fairly rapidly and require periodic revisions. The REPIS printouts are revised quarterly and are available on request from Winrock/Washington. The newsletters are prepared principally for the members of each respective network but are also used as renewable energy promotional material. The REPSource, according to the cooperative agreement is to be published quarterly, but delays and a country-specific issue format has limited publication. As of the time of this evaluation two issues had been published on Guatemala and Philippines, one is about to be published on Brazil, and work has started on one for Indonesia. Special reports are published on an irregular basis and deal mostly with technical topics. They are available through Winrock/Washington.

No dissemination plans have been prepared for any of these publications and their availability, and perhaps even more importantly, knowledge of their availability, is not widely known.

#### Conclusions

Much has been written and published about renewable energy by Winrock over the years, and most is of good quality. However, no dissemination plans have been prepared, nor records kept as to the effectiveness of these documents.

### **3.4.7. Mission Acknowledgement and Funding**

#### Findings

Several of the Agency's missions abroad have been supportive of Winrock's programs in renewable energy. This support has ranged from official and unofficial acknowledgement of their efforts, to relatively small amounts of 'facilitation' money, to entirely new mission projects supporting renewable energy initiatives. This type of support has come from USAID-assisted countries with REPSOs as well as some which do not have REPSOs. Following is a listing of this support for the REPSO-assisted countries:

- Guatemala - The Guatemala Mission has not made energy one of their priorities. Nevertheless, several people in the Mission are concerned about energy matters and acknowledge openly the support they have received from Winrock and especially the G/ENV/EET office. They have also made small amounts of money available from time to time supporting the activities of the REPSO. The total amount of their contributions over the years is not known.
- Indonesia - Energy issues are also not a priority with the Indonesia Mission. Nevertheless, the Mission has seen enough potential in the REPSO concept that it has transferred \$700,000 from its portion of the Regional Asian Sustainable Energy Initiative to G/ENV/EET for use in supporting renewable energy activities in Indonesia, mostly through the REPSO (RENI).
- Philippines - Energy is a priority of the Philippine Mission, and renewable energy has been one component of their program. In 1994, the Mission, with assistance from Winrock, designed the Renewable Energy Financing and Technical Assistance (REFTA) Project valued at \$3.8 million. Winrock was also chosen to be the implementing agency for this project.
- India - Energy issues are the second highest priority for the India Mission, behind population, with approximately \$7.0 million per year in expenditures. In terms of accumulated Mission support for renewable energy, the accomplishments review claims that \$10.1 million has been leveraged in Mission funds through the BEST and REAT projects. More recently, the Mission awarded Winrock the \$3.1 million, three year RECOMM project to strengthen the REPSO and continue with the renewable energy initiative. In the words of the Mission's Energy Office director, "We use Winrock to implement our renewable energy program."
- Brazil - An energy program is part of the Mission's Global Climate Change Program with renewable energy as one of its most prominent activities. The Mission requested and received approximately \$1.0 million from USAID/Global in FY 1995 which was channeled through G/ENV/EET for work with renewables. Then in FY 1996 the Mission transferred \$250,000 to Winrock and \$50,000 to US/ECRE to help in the establishment of the REPSO, among other renewable energy activities.

One last point concerning mission support for Winrock's renewable energy programs merits discussion. Both the REAT and BEST projects contained the assumption that a substantial

portion of each project's budget would come from mission 'buy-ins'. In the case of BEST, the figure assumed was \$10.0 million out of a total of \$25.0 million. In the case of REAT, it was 25 percent of the original project budget of \$8.2 million. However, in 1993, M/OP made a decision banning mission buy-ins to non-competed cooperative agreements. This obviously made it much more difficult for missions to express their support for Winrock programs in financial terms.

## Conclusions

Various missions around the world have expressed their support for Winrock's renewable energy programs through formal acknowledgments as well as additional funding; in some cases, in substantial amounts.

### **3.4.8. Leveraging of Funds Beyond USAID**

#### Findings

According to Winrock, the principal financial leveraging mechanism which they use is the sharing of solid technical and economic analysis from studies of specific projects with potential investors. In the structure of the organization, in both the BEST project and the NGO/REI initiative, this activity is handled under the Multilateral Development Bank initiative. In financial terms this initiative has so far been successful in convincing the World Bank and the government of Indonesia to establish a \$300.0 million line of credit for renewable energy projects through the private banking sector. As was stated above, however, this line of credit is not attracting the numbers of borrowers as was originally contemplated. Speculation on the part of officials from the National Power Authority (PLN) is that the commercial terms under which the private banking sector offers these credits are too demanding for most potential borrowers. Commercial rates are much more acceptable when traditional, proven, and demonstrable technologies are being proposed, than in the case of new, non-traditional ones with higher perceived risks.

Winrock also raises funds for its programs within the philanthropic community, most notably with the Rockefeller Foundation. It is not known if any of these funds have been used to support the BEST or NGO/REI programs.

Another source of leveraged funds is generated by the REPSOs. In the case of Guatemala, during 1996 alone, the Fundación Solar raised \$189,000 from several local and international NGOs to work with them on renewable energy issues. Additionally, towards the end of 1996, the Foundation was negotiating with the UNDP for the management of its renewable energy program valued at \$326,000. In Indonesia the situation is similar. There YBUL, the parent organization of the RENI, is implementing a \$750,000 UNDP small grants program, received \$35,000 from the JICA for a conference, raised \$38,000 from the EAAF, as well as other contributions from the government of Indonesia and other environmental NGOs in the country. Most important, however, are commitments from one domestic bank for \$2.0 million in developmental capital.

A third source of non-USAID leveraged funds comes to the Winrock subcooperators under the NGO/REI initiative. IFREE has been the most successful in this regard, receiving money from the DOE, the EPA, and the Rockefeller Foundation, although CREST and REETI have also received funds from the DOE and the EPA.

## Conclusions

The cooperator and its subcooperators, including the REPSOs, have been relatively successful in attracting additional leveraged funding. Nevertheless, the MDB initiative, which was to have stimulated the availability of funds for the construction stage of renewable energy projects has so far been limited.

### **3.4.9. Organizational Structure of the Cooperators**

#### Findings

For the purposes of this discussion we would like to distinguish between the cooperator's organizational chart for the management of the Best Project and the NGO/REI initiative as it was at the beginning of 1996 and the chart as it appears at the present (3/97). While the 1996 chart is somewhat confusing, it appears to be the result of the sometimes complimentary, sometimes overlapping, nature of the two programs and not due to mismanagement on Winrock's part. For example, both programs include activities covering the REPSO network, the Multilateral Development Bank Initiative, and the Utility Initiative. However, the BEST project officer was not responsible for any of these activities, rather they were the responsibility of the NGO/REI program officer who was also responsible for the Brazil REPSO. This concentration of responsibilities in one officer could be questioned, although the team was not able to meet with this person to assess capabilities and measure productivity.

The current, 1997, organizational chart for Winrock's management of BEST and NGO/REI is in flux, is still somewhat confusing, and contains several positions which are currently vacant. In early 1996, the program officer for NGO/REI et al, was transferred to Brazil to manage the REPSO there. Meanwhile, the program officer position for NGO/REI et al, was vacant for six months while Winrock searched for a replacement. Unpredictable budgetary resources for the future added to Winrock's hesitancy in filling the position. When the position was filled in late 1996, it was filled by a less than full-time person whose responsibilities were reduced to include only the NGO/REI initiative. This has left the Utility and Multilateral Development Bank Initiatives virtually unstaffed.

An additional comment is merited concerning the organic structure of Winrock's accounting and contracting functions. In early 1996, in an attempt to reduce costs and increase efficiency, Winrock senior management decided to transfer the accounting and contracting functions for all of its Washington-based projects to their central offices in Arkansas. Part of this process included a shift to a new accounting system which took much longer to implement than

anticipated, and during this process neither checks nor vouchers could be processed. This also added to the delays experienced for the various approvals as was discussed above.

Even more critical, however, is that the transfer of the accounting and contracting functions added another layer of bureaucracy, 1,000 miles away, to an already cumbersome process. While this affected the formal administrative oversight function of the organization, it affected the informal function even more. In the past, when accounting and contracting was performed in Washington problems and misunderstandings could be resolved, "By walking down the hall to a person's office who was much more familiar with the program". Now problems and misunderstandings must be resolved by phone, fax, or e-mail, and with people who are not as informed as those in the Winrock/Washington offices. Lastly, this transfer was not communicated to the G/ENV/EET project officer.

## Conclusions

The organizational structure for program management at Winrock's Washington-based offices is adequate, although in a state of transition at the present. Several vacant positions need to be filled. The transfer of the accounting and contracting functions did impact negatively on the organization's ability to manage its programs in a timely fashion.

### **3.4.10. Segregated Tracking of Labor Expenses**

#### Findings and Conclusion

Given the inter-related and overlapping nature of Winrock's renewable energy program, it is often, if not always, difficult to desegregate expenses by project, initiative, or funding source. This is especially true at the REPSO level.

### **3.4.11. USAID Management**

#### Findings

This discussion is divided into two parts, technical oversight and management performed by G/ENV/EET and contract oversight and management performed by M/OP. Nevertheless, one critical factor applies to both offices of the agency. We trust that all readers of this document are well aware of the down-sizing which has occurred at the agency in recent years, as well as the increases in required documentation on program status. This has led to an untenable situation in both offices under consideration of gross understaffing and incredibly high work loads which has, in part, led to an almost total inability on the part of USAID to manage projects in a timely fashion.

Turning now to G/ENV/EET program management, as explained above, there exists both a formal and an informal management system. The formal system consists of annual work plans, quarterly reports, and other deliverables. While this system provides for the 'historical record' of

the project, it is of little use as a management tool due to its extreme untimeliness and almost complete lack of quantitative performance indicators. In short, it provides little to management which is useful in implementing or managing its programs. One attempt to avoid the delays of the formal system is the approval of 'time-sensitive' activities by the program officer before the work plan as a whole is approved.

The informal system includes weekly meetings between the G/ENV/EET program officer and the cooperator which are intended to identify problems, bottlenecks, and solutions. Another part of the informal system has come to be called a semi-annual, or accomplishments, review and predates the current program officer. All those interviewed who attend the weekly meetings thought them to be useful and appreciate the interaction with the G/ENV/EET program manager. At least one of the subcooperators, however, expressed a desire to be included.

The accomplishments review, established under the initiative of the former G/ENV/EET program officer, is helpful since it provides almost the only source of data measuring progress as well as integrating Winrock activity with that of US/ECRE. The staff of Winrock currently working with the BEST project found the exercise helpful, especially during the current transition to NMS performance indicators. Nevertheless, it lacks rigor, is only prepared on a six month basis, and provides no explanatory text.

One attempt to address the problem of understaffing has been the use of American Association for the Advancement of Science (AAAS) fellows assigned to work at the G/ENV/EET. While the interns who have been assigned to work with the G/ENV/EET program officer have all been intelligent, motivated, and professional in their work, they do not have backgrounds in the fields of expertise required by G/ENV/EET. On the one hand, this has meant that they have been assigned clerical or administrative tasks, while on the other, they are sometimes asked to evaluate technical documents (work plans, quarterly reports, and other documents) which are not in their areas of expertise. This has led to misunderstandings and even further delays in the various approval processes at G/ENV/EET. Nevertheless, one of the AAAS fellows noted that while the work was not in his academic field, he had learned a great deal about management issues and was quite pleased with his experience with USAID.

On the personal side, the G/ENV/EET program manager is hard working (averaging 60 hours per week), dedicated, and a great communicator. Nevertheless, the team has observed an unnecessary level of attention to detail, an inability to prioritize activities according to their relative importance, and a willingness to accept more to do when no time exists to do it.

On the M/OP side of the equation, the situation of being understaffed and overworked is even greater than on the technical side. Nevertheless, other structural factors exist which further exacerbate this situation. For example, money for the cost-shared feasibility studies can come from three sources: the BEST project, the REAT project (through IFREE), and the NGO/REI initiative. At this point in time all of the funds available under the NGO/REI initiative have been allocated along with most of the IFREE funds, while the BEST project still contains a sizable 'pipeline' of unallocated cost-share funds. Three reasons account for this. The first is a relative

lack of "good" biomass projects waiting to be discovered, and the second is a prohibition from working with government-owned facilities such as the sugar mills in Indonesia. The third, however, is a requirement that all cost-share agreements under the BEST project, since they are regarded as subcontracts, must be approved by M/OP in addition to the REPSO, Winrock, and G/ENV/EET approvals. This added layer, according to virtually everyone interviewed and certainly everyone who had gone through the approval process, was the slowest and most onerous to deal with causing many potential developers to look elsewhere for funding. (One US developer interviewed commented that he had spent \$20,000 to obtain a \$20,000 cost-share agreement.)

Problems include different procurement officers for BEST and REAT, the rapid turnover of procurement officers and the need to constantly 'educate' these new officers, and irrelevant technical questions outside of the procurement officer's area of expertise or authority. An example of this comes from a cost-share proposal submitted by the Guatemalan REPSO. In this case funds were being sought for the development of a feasibility study for a small cogeneration project. Among many things, the developer proposed the use of two engineers to carry out the work. The proposal made its way through the various approval levels and finally reached the M/OP offices. It remained there for several months only to be rejected on the grounds that two engineers were not necessary when one should have been able to do the job. This was clearly a case of over zealous management.

## Conclusions

G/ENV/EET's formal management system of the BEST and REAT is in disarray due to lack of timeliness and lack of performance indicators for use by program managers. The informal management system which has been set up in an attempt to improve the process is not much better since it lacks rigor and most types of quantifiable and reliable performance indicators. M/OP approvals required in the case of BEST have made a bad situation worse and severely restricted the project's ability to meet several of its proposed outputs.

### **3.5. Winrock International—Additional Findings**

#### **3.5.1. Budgetary Considerations**

##### Findings

In early 1995, US/ECRE contracted an evaluation of the Winrock-led REPSO initiative. One of the conclusions made in the evaluation was that the ratio of dollars spent on the initiative by Winrock/Washington compared to the dollars made available to the REPSOs was five to one. The team was not able to recalculate this ratio using similar accounts, although our impression is that it has probably remained the same. This observation is based on dividing the nominal budgets for in-country REPSO operations (\$60,000 per country) plus the amount of approved cost share contracts or grants into the total budget for the REPSO program. Winrock argues that the in-country spending should include salaries paid to long-term Winrock employees in

Winrock operated REPSOs in Brazil, India, and the Phillipines (these salaries were not included in the nominal REPSO budgets of \$60,000 per year), contracts for U.S. consultants who perform tasks related to the REPSOs, and travel to the REPSO countries. On that basis, in-country and Washington spending are about the same, i.e., a ration of one to one.

The five REPSOs each receive \$60,000 per year for operational expenses (This amount is the same for all of the REPSOs regardless of the relative costs of doing business in each country. Half of the funds come from BEST and half from REAT.), plus any cost-share funds which are approved for each country. They receive no overhead or other payments from BEST or REAT although Winrock has been working with both groups to establish audited overhead rates. This is not so much of an issue in Brazil, India, or Philippines where the REPSOs operate out of Winrock offices established for the implementation of other projects. It is, however, an issue for Fundación Solar and the RENI which are essentially NGOs with little, or no, capital base. In the case of these two, they often have problems paying the rent and many of the employees work without pay for months at a time.

Additionally, due to delays in the various budgetary approvals, the REPSOs must often 'front' the money for operational expenditures. Given their precarious capital base, this has become a severe burden.

### Conclusion

The division of resources between the REPSOs and the Winrock/Washington office appears to be out of balance. It appears to be inconsistent with the tasks often required of the REPSOs and does not take into consideration the cost structure of doing business in each country. The untimely arrival of operational support funds also causes problems in this regard.

#### **4. Issues and Recommendations**

The following chapter presents the team's issues and recommendations stemming from the findings and conclusions in the previous chapter. As in the previous chapter we have attempted to separate those issues pertaining to Winrock International from those pertaining to US/ECRE. Nevertheless, some of the issues and recommendations apply to both organizations. These are designated as such. The issues presented below follow the same general order as the Scope of Work for the evaluation. Table 6 represents the evaluation team's priority rankings for the recommendations.

##### **4.1. Planning- US/ECRE and Winrock**

###### Issue

Both organizations produce professional, detailed planning documents, however, current project planning, centering around the preparation of work plans, is a lengthy, protracted process often completed and approved long after the implementation period has commenced. Also, work plans are not tied to specific project outputs through the use of performance indicators.

###### Recommendations

Continue to implement the New Management System (NMS) linking project outputs through the cooperative agreements and annual work plans to performance indicators. The cooperators and their subcooperators should be included in the process. The preparation, analysis, and approval of planning documents must be brought back on schedule. Time limitations should be imposed at each approval level. If a time limit passes without the proper approvals, except in the case of extreme circumstances, it should automatically to be assumed to be approved. Putting the planning process on-line could simplify this process.

Should resources again become available we would also recommend that G/ENV/EET consider developing a project management system based on standard commercial project management software, for each of its major programs such as REAT or BEST, and require that cooperators or contractors maintain the status of their projects within this overall framework. Such a system could be made available, on-line, to all who need such access on an instantaneous basis, and all programmatic information could be updated on a frequent periodic basis - say daily or weekly - rather than quarterly or worse. This project management system would contain the planned and current schedule of activities and milestones, and even the current status of expenditures, person hours, or other measures of resources. It could be used to provide the data needed for the NMS system. Maintaining the project schedule is not a difficult task to set up using readily available software such as Microsoft Project Manager or Symantec's Timeline. Graphics such as the schedule, critical path, or resource loading could easily be embedded in a document that could be maintained on a World Wide Web site where all project participants could have ready access to it. Such a "nearly real time" schedule and expenditure update, in conjunction with weekly or

biweekly meetings with the project directors, would serve the program's need to be kept current on the activities and events.

#### **4.2. Reporting- US/ECRE and Winrock**

##### Issue

The current reporting system, specifically the quarterly reports for both the REAT and BEST projects is untimely, lacks information on performance indicators, and does not serve as a tool for project management. For the most part, at present they are done in a perfunctory manner and serve little purpose. The distribution of reports is also extremely limited.

##### Recommendation

The reporting system must be made more timely and linked through performance indicators to specific project outputs. Continue to work on the implementation of the NMS. The imposition of deadlines for reports should be enforced so that they can serve as a project management tool. The time frame for quarterly reports under the BEST project should be reduced from 90 days to 30 days. Reports should be exchanged between and among the cooperators to improve information flow and the exchange of ideas and processes. This should also extend to subcooperators.

An alternative recommendation is that the quarterly reporting system be scrapped. It should be replaced with the on-line project management software recommended above and a more frequent, less-formal periodic reporting system for information exchange rather than management. The above suggestion of an on-line project management system would also help keep all the project participants connected and involved, but would not replace the function of the periodic report to stimulate the personal assessment of progress that each person must perform. We would strongly recommend that each organization (cooperator) develop an internal progress report format that not only meets its contractual requirements, but really adds management or technical value to the project. The sharing of information within the organization should not be taken for granted. Internal progress reports can stimulate corporation, creativity, and healthy competition within the organization if it is properly managed and distributed. This periodic report could also be maintained on-line.

Also, greater use of the World Wide Web (www) for the publishing and dissemination of important documents. This could be implemented by supplying hardware and software to key target audiences.

#### **4.3. Program Accomplishments- US/ECRE and Winrock**

##### Issue

While many activities have been accomplished it is difficult to estimate their impact towards achieving project Goals and Purposes. As was discussed above, accomplishments are not reported using performance indicators linked to project outputs. Additionally, there is no centralized list of sponsored events or tasks completed.

##### Recommendation

Continue to implement the NMS. Cooperators should implement their own standardized technical information system for day to day program management as well. A data base should be established by each cooperator including the activities and tasks accomplished.

##### Issue

The lack of investment capital to finance renewable energy projects once feasibility studies have been completed is the principal constraint to both projects achieving their Goals and Purposes. US/ECRE and Winrock both have MDB initiatives but with little apparent coordination. The program officer position for both the MDB and Utility initiatives at Winrock has been vacant for over a year. Additionally, the array of potential funding sources, both public and private, is not being tapped.

##### Recommendation

The search for investment capital needs to be broadened beyond the MDBs to include private sector banks, insurance companies, power utilities, and energy service companies. Representatives from the financial sector should be included on trade and reverse trade missions.

If US/ECRE and Winrock are both going to be involved in stimulating the availability of development capital, their initiatives should be coordinated. Winrock should move quickly to fill its program officer position for the MDB and Utility Initiatives.

#### **4.4. Cost-Shared Feasibility Studies- Winrock**

##### Issue

The cost-share proposal and approval process is extremely drawn out, expensive to both the beneficiary and the organizations involved, and involves too many levels of approval. Indeed, the cost of the approval process is most likely higher than the value of the cost-share. The credibility of the initiative and the REPSOs is at stake. M/OP approval is required for all cost-shared agreements processed through the BEST project. This makes an unnecessarily long process even longer.

#### Recommendation

The approval process for cost-share proposals needs to be shortened and made more efficient. Both the Winrock/Arkansas and the M/OP offices should not be involved with the process. As with the approval of work plans, decision makers should be given a limited time in which to approve or reject a proposal. If a proposal is not approved or rejected within the time limit, it should be considered approved.

#### **4.5. Benefits to US Industry- US/ECRE**

##### Issue

Competition for the supply of renewable energy technology is very keen. US entrepreneurs are often unprepared to conduct business in the context of developing countries where different cultural, social, and economic systems prevail. Without this type of information it is difficult to identify compatible local partners.

##### Recommendation

Greater emphasis should be placed on educating US entrepreneurs on the prevailing customs and practices of the countries where market opportunities exist. The use of local partners can be invaluable in this regard and should be encouraged.

#### **4.6. Management of Subcooperators- Winrock**

##### Issue

The subcooperators--IFREE, CREST, REETI, and VITA--are not aware of many of the activities, strategies, practices, and policies of the cooperator. They are not full team players and feel out of the information loop, both formally and informally.

##### Recommendation

The subcooperators should be provided with more information and greater access to the overall activities of the cooperator. This can be accomplished in two ways; by providing them with copies of work plans and quarterly reports, and by inviting them to participate in some of the weekly meetings held between the G/ENV/EET program officer and the cooperator.

#### **4.7. Information Dissemination- US/ECRE and Winrock**

##### Issue

A great deal of information has been prepared by the two cooperators over the life of the two projects. However, no dissemination plans exist for any of this information and the team

questions if it is getting to the right people, both in the US and abroad. This is especially the case with the REPSOs and the services they can provide. Advantage is not being taken of recent advances in the electronic transmission of information.

#### Recommendation

Dissemination plans for the various publications produced by the cooperators should be prepared. They should include electronic dissemination through the use of Web sites and the Internet for the cooperators and each of the REPSOs. This would require the purchase of new computer equipment for the REPSOs. CREST is ideally suited to assist with the software aspects of this task.

#### **4.8. Mission Buy Ins- US/ECRE and Winrock**

##### Issue

The 1993 decision by M/OP to ban mission buy-ins to non-competed cooperative agreements has limited the scope of both the BEST and REAT projects.

##### Recommendation

If a follow-on project is designed to continue the activities of both projects, it should be competed so as to allow for mission buy-ins in the future.

#### **4.9. Organizational Structure of the Cooperators- Winrock**

##### Issue

There are two critical unfilled vacancies in Winrock's organizational structure; the MDB and Utility Initiatives (see Figure 4). Additionally, given the high amount of travel experienced by most of the Winrock staff assigned to BEST and NGO/REI, decisions, approvals, and questions often must wait until the respective staff member returns from a trip. The team also received comments from several staff members at the missions and REPSOs visited that the Winrock staff travels too much and that many of these trips are unnecessary.

##### Recommendation

Winrock should move to fill the current vacancies in its organizational structure. A designated deputy should be appointed each time a staff member travels. This deputy should be empowered to make decisions and/or communicate directly with the traveler when issues arise. Thorough justification should be required for all overseas trips and the missions and REPSOs should be informed of the purpose of each trip.

#### 4.10. Budgetary Considerations- Winrock

##### Issue

Some of the REPSOs, especially Guatemala and Indonesia, appear to be under-funded given the tasks they are requested to perform. The \$60,000 which every REPSO receives does not take into consideration the different levels of activity, nor the in-country costs which vary from country to country. To the India REPSO for example, the \$60,000 is dwarfed by the \$3.1 million available to it through the RECOMM project. Meanwhile, at Fundación Solar and the RENI, bills go unpaid and staff members go for long periods of time without receiving salaries. In the specific case of Fundación Solar, the REPSO, at least theoretically, is expected to attend to the six countries of Central America but has no money to work outside of Guatemala. Additionally, the countless delays occurring in the work plan approval process has meant that the \$60,000 has arrived months late causing Fundación Solar and the RENI to have to come up with their own resources in some cases and to switch their staff to volunteer status in others.

##### Recommendation

The amount of administrative/operational support provided by the projects should be based on the level of activity at each REPSO and the actual costs of doing business in each country. The concept of overhead on activities and tasks performed should be introduced at each REPSO. This would help to balance the level of activity with the actual costs incurred and put the REPSOs on a more assured track towards sustainability.

A system of advances needs to be put in place to cover the period between the end of one fiscal year and the approval of the next year's work plan.

#### 4.11. Management Burden - US/ECRE

##### Issue

As a result of several years of building up its contracting and management staff and capability, and the transfer of subcontracting activities to Winrock, US/ECRE is now over staffed in the management area.

##### Recommendation

As long as the agreement is operated on a cost reimbursable basis, the management cost will be high. There is no alternative but to scale back the management overhead staff. If the budget permits, some of the extra resources could be absorbed in the regional or association areas.

#### **4.12. Sustainability US/ECRE - US/ECRE**

##### Issue

With diminishing Government budgets, the resources allocated to US/ECRE are likely to be reduced, perhaps substantially. Is a link to U.S. industry through an organization like US/ECRE critical to USAID's mission, and if so, how can a viable US/ECRE be sustained?

##### Recommendation

In addition to scaling back in some areas as mentioned above, US/ECRE may be able to increase the support it receives from its member organizations -- either through membership dues or fees for services. USAID should carefully balance the potential cost of restoring a viable US/ECRE against the short-term savings that might be achieved by severe cutbacks.

#### **4.13. Sustainability of REPSOs- Winrock**

##### Issues

In order for the projects and the REPSO network to be truly successful they must become sustainable generating sufficient income to cover their costs of doing business. In the case of Fundación Solar and the RENI the issue is relatively more critical in the short run than with the REPSOs which are linked to Winrock field offices. Nevertheless, all of the REPSOs will have to become stand alone entities which are sustainable in the medium term.

Fundación Solar and, to a lesser degree, the RENI have already taken steps towards sustainability. Fundación Solar is actively seeking partnerships with other NGOs and international donors, while at the same time they are establishing a for-profit company which will provide technical assistance on a commercial basis to individuals, companies, and organizations working with renewable energy applications. The RENI, through YBUL, is also involved in providing technical assistance to a broad range of clients on environmental issues including renewable energy.

##### Recommendation

Sustainability plans should be developed for all REPSOs. Overhead rates for all of the REPSOs should be calculated and charged to the cooperators and all other individuals, companies and organizations contracting with the REPSOs. The Fundación Solar 'model' of attracting contracts from other NGOs and establishing a for-profit subsidiary should be considered by the other REPSOs. Cost-share funds which are paid back to the REPSOs should remain there for future onlending.

#### **4.14. REPSO Staffing- Winrock**

#### Issue

The staffs of the REPSOs visited are composed of energetic professionals who for the most part have been trained as engineers. There are a few notable exceptions to this: YBUL/RENI has a financial manager in addition to their engineering capabilities, FS has a lawyer and an economist, and the India REPSO has three positions for non-engineers. Nevertheless, the playing field remains more skewed than is necessary.

#### Recommendation

The REPSOs should seek more of a balance between engineers and professionals with business training or background.

#### **4.15. G/ENV/EET Program Management- USAID**

#### Issue

G/ENV/EET management of the BEST and REAT projects can be described as 'seat of the pants,' or crisis management. Several reasons account for this. Under staffing and the inefficient use of staff begins the process. This is followed, as we have stated many times above, by the lack of an appropriate project management information system--the absence of which has forced G/ENV/EET management to resort to an informal face-to-face system which is tedious and time consuming. Added to this is the relationship between G/ENV/EET and M/OP, and the lengthy process required in asking questions and receiving answers, let alone approvals of subcontracts. Declining and/or fluctuating budgetary levels worsen the problem.

#### Recommendation

The present informal information system must be replaced by a formal one grounded in the requirements of the NMS. This would have the added advantage of freeing up substantial portions of the program officer's time. The data requirements for this must be relayed to the cooperators who must be required to provide the information in a timely manner. This should be seen as a gradual process tending to reduce the current face-to-face contact between G/ENV/EET and the cooperators.

To the extent possible, vacant positions should be filled and/or others created. Senior management of the Center for the Environment needs to be made aware of the pressures and responsibilities placed upon program officers; especially when assigning tasks over and above those normally required to manage a project or program.

#### **4.16. Inappropriate Procurement Mechanism-US/ECRE, Winrock, USAID**

#### Issue

The procurement mechanism used for the US/ECRE agreement has not always been satisfactory to both parties. USAID desires more control over some of the day-to-day activities than is appropriate for a cooperative agreement. Initially, US/ECRE was not willing or able to deal with cost reimbursable accounting required by the agreement, and has adapted to it slowly and at high cost.

#### Recommendation

There are no simple solutions to these issues, but with some creativity and flexibility by both parties, it should be possible to come up with arrangements that are satisfactory to both and do not penalize the taxpayers. For example, the procurement could consist of a cooperative agreement governing the long-term joint interests of the parties, and a contract for the short-term activities that require more management and control by USAID. If cost reimbursement accounting is a major barrier for US/ECRE, or other potential cooperators, a primary contract or agreement could be placed with a qualified company or NGO who could, in turn, issue fixed price or time and materials contracts to US/ECRE or other cooperators, much as US/ECRE and Winrock do with the major subcooperators in the REAT project now.

## **5. Appendices**

### **5.1. Country Field Reports**

#### **Field Trip Report for Guatemala**

##### **1. Programs and Projects Reviewed**

Although the REPSO program is the only currently active REAT project in Central America, both REAT and BEST have been active there since 1989. Unfortunately, the timing of our visit did not allow us sufficient time to make contacts with people who were involved in some of the earlier work, nor to visit other countries where the two projects have been relatively successful, such as Costa Rica and Nicaragua.

##### **2. Findings**

###### **2.1. Fundación Solar**

###### **2.1.1. Credibility**

Our interviews indicated Fundación Solar (FS) had achieved a remarkable level of recognition and respect in a very short time. All of the interviewees offered favorable comments on the technical competence of FS, on their aggressiveness in seeking out opportunities for renewable energy technologies, and on their objectivity in dealing with business and policy issues.

This view of FS was shared by the Mission as well as those institutions with which interviews had been arranged by FS.

###### **2.1.2. Capabilities**

The Fundación Solar is primarily a group of professionals with technical backgrounds in engineering, physics, economics, and architecture. Its staff and associates, however, also include experienced administrators and an attorney. The only obvious omission from the mix one might like to see in a REPSO is a person trained in business (MBA). However, many of the staff have considerable business experience and many contacts in the business community.

###### **2.1.3. Funding and Support**

Fundación Solar receives about \$60,000 per year from Winrock via the REAT and BEST projects to sustain its REPSO activities. In 1996, FS was able to secure an additional \$189,800 in funding from other institutions. At this level of funding, however, the foundation is badly under funded. Much of its overhead and a substantial amount of project work is performed by unpaid staff. While the staff is extremely committed to the foundation's principals and goals,

such a high level of volunteerism by highly qualified professional staff is probably not sustainable. Eventually most of these professionals will be forced to seek more rewarding activities. FS recognizes this, and is not only seeking more NGO funding and reimbursable work, but is also planning to set up a for-profit energy services company that can provide employment and income to associates of the FS. Winrock is also helping in the establishment of a business plan for the eventual self-sufficiency of the organization. Winrock supported the preparation of a business plan to launch the for-profit enterprise in 1996.

#### **2.1.4. Management**

Fundación Solar is a very horizontal organization. The Directorship seems to be largely a ceremonial office-- responsible for signing contracts, but little else. The day-to-day administration of the foundation is assigned to one of the staff on a rotating basis (two years) like many university departments handle the chairmanship. Each project has a manager or director that can perform virtually any function depending on the project and the type of expertise required. Most of the staff work on several projects at a time.

The current manager is a very capable, energetic, sincere, and dedicated renewable energy professional who is very well known and liked in the business and government communities of Guatemala. He currently bills about 120 days per year to REPSO activities, but we would guess he spends more time than that on activities that are either REPSO or closely related.

#### **2.1.5. REPSO Activities**

##### **2.1.5.1. Administration of Cost Share Program**

The primary role of the REPSO is to administer or facilitate the award of cost shared funds to support feasibility and pre-feasibility studies of promising renewable energy projects in Guatemala (and ostensibly in Central America). Cost share funds available through the REAT and BEST programs were \$200,000 in 1995 and \$120,000 in 1996. The cost share is treated as a loan if the project is eventually realized; as a grant if it is unsuccessful.

Fundación Solar advertises the availability of REAT and BEST funds, works with interested applicants to prepare appropriate proposals, coordinates the review and evaluation of the proposals, and recommends the most promising projects for funding. Last year, the REAT portion of the cost share program was actually transferred to Fundación Solar and became a revolving fund that can be used to fund future projects. The BEST funds are retained by Winrock and all the BEST projects require approval of the M/OP as well.

Contracts have been written with various organizations to perform the pre-investment studies authorized by US AID under the BEST project, but no projects have yet been approved for REAT funds. The BEST projects were delayed 6 to 8 months by delays in the M/OP approval process. M/OP attributes the delay to work overloads and staff changes. The cause of the delay

in REAT fund distribution, which does not require M/OP approval, was apparently due to a lack of adequate attention on the part of Winrock staff.

#### **2.1.5.2. Assistance to US and Guatemalan Businesses**

We found ample evidence that FS maintains close ties with decision makers and policy setters in government, utility, and business sectors of the Guatemalan economy. The staff was knowledgeable and well informed on recent changes in legislation, utility regulation, donor agency activities, and the activities of business and other NGOs. They reach many key people in these sectors through their board of directors which is well represented in each. REPSO staff was able to answer all our questions related to the business opportunities for renewable energy technologies in Guatemala. However, we did not see much evidence of documentation to support business entrepreneurs such as trade guides, contact lists, market share data, etc. We did see several articles prepared for conferences that outlined the foundation's activities and cited some of the important lessons learned. These papers were well written and informative and should be of value to those considering expanding commercial activities in Guatemala. It was not clear, however, how these documents could find their way to American companies interested in doing business in Guatemala.

The foundation's current manager is certainly a very capable and knowledgeable local contact for U.S. companies. He has all the right contacts, knows both the technologies and the business requirements, and is even capable of very impressive simultaneous translation if required. We did not find, however, a great deal of evidence that this valuable resource was being used by American business. Most of the projects we heard about in Guatemala were internally conceived and promoted.

#### **2.1.5.3. Other Activities**

Fundación Solar works for and with other local and international NGOs as technology experts and advocates. Their staff is trained in solar, wind, and energy efficiency technologies. They have recently acquired additional bioenergy capabilities and have access to engineers with experience in hydropower development. They have memoranda of agreement for some of these activities, but also seem to conduct others on an informal and sometimes pro bono basis.

The Fundación recognizes that it needs a more reliable source of funds for its operations and is planning to initiate a for-profit energy services company as a subsidiary. Winrock has assisted in this initiative by supporting a Washington consultant to do a business plan for Fundación.

#### **2.1.5.4. Reporting Activities**

By contract, Fundación Solar is required to file quarterly progress reports on its activities. The director realizes that filing these reports is a condition for payment of FS invoices by Winrock and claims they are always completed and submitted in a timely manner. FS apparently also files monthly reports, but these seem to be less formal and are not required by contract. Apparently,

Winrock takes the quarterly reports and combines them with those from other REPSOs for the quarterly reports required by USAID. The REPSOs never see the finished reports or other projects' individual reports. This seems like an opportunity missed. One of the most valuable aspects of periodic reporting is to improve coordination, cooperation, and, sometimes, competition within a program.

#### **2.1.5.5. Renewable Energy Advocacy**

There is ample evidence that Fundación Solar is a strong voice advocating renewable energy technologies in Guatemala. They work with virtually all the donor groups and NGOs that have any interest in energy or infrastructure development and FS has been successful in influencing many to include RETs in their projects. Their work with Plan International, which has funded most of the solar lighting projects in Guatemala (906 small PV systems installed) is a good example.

Fundación Solar is also an organization with a strong social conscience. They are strong backers of rural development, social reform, and ethnic and gender fairness, etc. So far, they seem to have maintained this social high ground without alienating the country's elite and powerful.

#### **2.1.5.6. Opportunities for Fundación Solar**

In addition to the energy services operation mentioned above, FS seems to have growing opportunities to assist donor agencies in developing and implementing infrastructure projects in the "peace zone." If past experience is a reliable guide, substantial funds are likely to be made available by donors, particularly Europeans, to help Guatemala recover from the ravages of its 36-year civil war. Fundación Solar, and many other caring Guatemalans and NGOs, would like to see that more of the Guatemalan peace money finds its way into projects that provide permanent benefits for the indigenous population. Energy and housing programs for the rural peace zone could and should have strong renewable energy aspects.

#### **2.1.5.7. Problems and Concerns**

- **Sustainability-** In spite of the opportunities mentioned above, we hear of people working for months without pay and wonder how long a viable organization can be held together. With further reductions in US AID funding likely and no obvious short-term way for the FS to recover the cost of REPSO-like activities, it is possible that FS could be forced to devote all its resources to other donor agency supported work.
- **Isolation from Business-** A similar concern is that FS may become too closely associated with development work, and lose some credibility with the business and government sectors.
- **Lack of Business Orientation and Expertise-** While the staff of Fundación Solar does have business experience and many good contacts in the business community, most are

technologists at heart and would rather put together energy systems that work than develop business that work. It would be beneficial to bring a strong business person (MBA) into the organization to spearhead some of the REPSO activities. This is virtually impossible at the current level of FS funding, unless someone from one of the volunteer organizations should be interested in the business aspects of their work (FS currently has a young Dutch physicist working with them supported by the Netherlands, and a Fulbright fellow working on social issues).

- **Parochialism-** The original intent of the REPSO operation in Guatemala was to provide a Central American presence. To date, FS has been totally occupied with its activities and Guatemala. The Mission in Guatemala is particularly concerned that FS has not reached out to other Central American countries. FS, for its part, feels that until it is able to assist Guatemalan projects in a professional and timely way, that it would be unwise to seek to broaden the scope of their work. They see the long delays in approving cost share funding and in paying invoices once the work is complete as a major embarrassment and one that is completely beyond their control. With shrinking US funding and ever tighter project controls, it is unlikely that this impasse will be resolved.

## **2.2. USAID Mission**

### **2.2.1. Energy Activities and Prospects**

The Guatemalan Mission currently has no official energy program and no energy officer. Sylvia Alvarez de Cordoba currently handles all energy issues for the Mission more out of personal interest and commitment than assignment. Her primary, non-energy assignments occupy more than 70 percent of her time.

The Mission's current strategic plan emphasizes integration into the "global market" and says nothing about infrastructure (other than communications) or energy. If any energy activity continues at the Mission, it will likely be limited to helping the country with its efforts in policy and regulatory reform.

The underdeveloped regions of the country are so poor that it is hard to see how programs such as rural electrification can be self-sustaining or propagating in the foreseeable future. Electricity may improve the quality of life slightly for people in remote areas, but it will be a long time before it can raise their productivity to the point where they can afford and expand its use. Thus, infrastructure expansion in Guatemala is likely to be the domain for the government and donor countries, rather than the private sector, for some time.

### **2.2.2. Evaluation of REAT/BEST Programs**

#### **2.2.2.1. Opportunities for RETs**

- Huge area lacks electricity

- Renewable resources are abundant - solar, hydro, wind, geothermal, and biomass from sugar, forestry, etc.
- New utility laws favor private investment although they are still highly biased toward fossil fuels.
- There already is a great deal of money from MDBs and international donor agencies available for environmental programs and the "peace initiative." These funds are likely to grow. It is important that good energy projects are available when donors are interested in investments in the infrastructure.

#### **2.2.2.2. Barriers to Renewable Energy**

- Strong fossil fuel bias in government, utilities, and business communities.
- Lack of interest in energy and infrastructure programs within Mission and US USAID Global and some other donor and financial institutions.
- Energy priorities favor projects with low capital costs over more economical alternatives with higher capital costs, because the country needs power now and can install more per dollar of investment with low-cost gas turbine technology than with investment intensive alternatives such as hydro, solar, geothermal, etc. The government does not take a very long-range view when it comes to energy and infrastructure planning. In addition, the new utility law will create a market where power agreements will have capacity fees, and will probably allow pass-through of fuel costs. This will be highly favorable to fossil-fired power.
- A feeling among many that those who advocate renewable energy projects are rich land owners who simply seek to profit from further exploitation of the natural resources.
- Evaluation of \$12 million NRECA program was apparently quite negative.

#### **2.2.2.3. Policy Reform**

The Guatemalan Mission has been fairly heavily engaged in helping the GOG to develop new legislation that will reform the energy and utility sector. As of November 1996, a new law went into effect that will lead to greater privatization of the utility sector. The regulations for enforcing the new law have not yet been completed, so its full impact will not be known for some time. The law does require privatization of the national utilities, and will eliminate vertical integration and unfreeze electricity prices that have been fixed since 1991. However, the law is likely to create a spot market for electricity that will favor conventional power generation in the short term. The bill does not contain any provisions that are specifically favorable to renewable energy and is viewed by many as blatantly pro-fossil. The Mission contends the new bill is better than nothing and hopes the regulation can be framed to even the playing field a little. The

bill does eliminate some restrictions on geothermal energy development that had hampered the exploitation of the resource in Guatemala.

#### **2.2.2.4. Problems and Concerns**

- **Lack of Coordination-** The Mission finds the REAT/BEST projects to be confusing and frustrating. They feel there are too many cooperators--often actually competitors--whose activities are uncoordinated and conflicting. The Mission has difficulty explaining to in-country counterparts "who is who, and what is what." They believe that the REAT/BEST efforts are too dispersed and, therefore, have little impact.
- **Raising Awareness of Renewable Energy Options-** The Mission credits the projects, and specifically, Fundación Solar, with raising the awareness of renewable energy options in Guatemala. FS has established credibility for RETs and itself. Unfortunately, there has been little impact as of yet.
- **Red Tape-** The Mission is often frustrated with the clearances and approvals it must obtain from USAID/Washington in order to conduct local projects, hire foreign consultants, etc.
- **Buy-ins-** The Mission also has had favorable experience with "buy-ins" or OYB transfers. Obviously this issue is moot if the Mission has no funds for energy programs. The Mission does credit G/ENV/EET (and the program manager specifically) with keeping renewable energy programs alive in the Mission thus far.

### **3. Conclusions**

#### **3.1. REPSO**

We find the Guatemalan REPSO program to be well run and effective in generating local interest in renewable energy options. It has not yet had a major impact, but has been successful in guiding several small renewable energy projects to completion.

It appears to be less successful in assisting US companies to develop projects in Guatemala. This may be due to the nature of the opportunities in Guatemala (hydro and geothermal power projects typically require less foreign technology and expertise than some other RETs) or to a smaller level of interest in this market by US companies.

### **4. Recommendations**

#### **4.1. Eliminate (or drastically reduce) Bureaucratic Delays**

Include a clause in the agreement that says if USAID M/OP does not object to a BEST proposed subcontract within 30 days the contract is approved - and stick to it.

#### **4.2. Make Reporting Meaningful**

At present all those involved in the periodic reporting process consider it an oppressive burden with no personal value to the reporter. Similarly those who receive the reports seem to read them only to determine compliance and not out of any real interest. If the quarterly reports cannot be turned into effective management and productivity tools they should be eliminated. Some suggestions for increasing the value are:

- Always include the name of the individual who actually does the work and writes the report;
- Always distribute the report to all participants in the work;
- Provide feedback from management to those actually involved in the work and from others engaged in similar work; and,
- Make the report interesting enough to encourage people to actually read it (don't fill it with boiler plate or repeated text from previous reports, do include specific results, conclusions and recommendations, do include figures, pictures, tables, presentation material and other visually interesting material, do use graphical project management software to depict program status in a consistent and easy to understand graphic, use the Internet to make all the program information easily accessible to all program participants and to make important information quickly available to those who depend upon the program, etc.).

#### **4.3. Provide a Stable Contracting Mechanism for FS REPSO Work**

Presently, Fundación Solar's REPSO work is jointly funded by REAT and BEST through two separate contracts. In 1996, because of delays in receiving approval from M/OP for the BEST contracts, FS was not permitted to bill Winrock for approximately half its REPSO work for some five or six months. This meant that staff was not paid. We find this inexcusable. If M/OP and Winrock cannot perform their managerial responsibilities in a timely manner, they need to arrange a contracting mechanism that does not penalize the contractor for the failures of the managers. One mechanism would be to phase the two contracts sequentially rather than simultaneously. The REAT funded contract, which does not require M/OP approval, could be structured to cover the first six months of the work, and the BEST funded contract could cover the second half. Thus FS could bill for all its work in the first half of the year to REAT while M/OP processes the contract for the second half.

Another alternative would be to provide for some bridge financing of the work through Winrock's private resources. (Winrock could presumably recover the financing charges on such a loan through its overhead in its agreement with USAID--FS cannot self-finance its payroll at present and probably cannot secure credit from local banks. Even if FS could secure credit, it could not recover the interest cost since its contract does not include an overhead rate.)

## **Field Trip to India (Delhi)**

### **Findings**

#### **1. REPSO**

##### **1.1. Credibility**

The India REPSO draws its not insignificant credibility from several sources, some of which can be attributed to past activities funded under the BEST and REAT projects. The most often cited activity in creating an awareness of the potential benefits from using renewable energy sources was a BEST/Mission funded study of the feasibility of cogeneration using high pressure boilers at three sugar mills. This proved the case for bagasse-based cogeneration and sparked much interest from other mill owners and operators. Trade missions and reverse trade missions supported by both projects further assisted in exposing decision makers, investors, and others to the topic of renewables.

It should be pointed out, however, that these projects have been implemented in a favorable environment (Some of which the projects no doubt assisted in creating.), including: a predisposition on the part of the Indian government towards the field of renewable energy which dates back to the government of Indira Gandhi, and the USAID Mission's strong support for energy issues over a substantial period.

The support of the GOI can be demonstrated by the fact that India has the only ministerial-level government agency in the world dealing with renewable energy issues (The Ministry of Non-Conventional Energy Resources) and a companion financial agency which has lent \$500,000,000 for the adoption of renewable energy technologies over the past ten years (Indian Renewable Energy Development Agency Limited, IREDA). On the Mission side, energy issues have always been an important priority ranking second at present below population. The Mission's most recent support to the sector has been the Renewable Energy Commercialization Project (RECOMM) which is a three year, \$3.15 million grant-funded activity also being implemented by Winrock International. In the words of a Mission staffer, "We use the REPSO to implement our renewable energy program."

Two issues remain which affect the credibility of the REPSO; the lack of an advisory board, and the lack of an Indian manager to run the REPSO. At the time of the team's field visit to India project management was working to resolve these issues.

##### **1.2. Capabilities**

The current REPSO staff, including the expatriate Renewable Energy Advisor, are academically and professionally qualified to undertake the tasks ahead. Nevertheless, the staffing plan has two important positions which have yet to be filled: an overall director who can give the organization direction and vision; and, a finance expert who will be better able to address financial issues than

the current staff of mostly engineers. This dominance of engineers among the staff of the REPSO is seen as a weakness on the part of the Mission.

In addition to the favorable environment mentioned above in which the REPSO exercises its capabilities is the fact the RECOMM project is grant funded, requires far less stringent approval processes, and is capable of rapid responses to issues and opportunities. Given the lengthy approval process for cost-shared feasibility studies in the BEST and REAT projects, the REPSO team much prefers to use RECOMM funds and, "...has all but given up on using the BEST or REAT projects due to the delays encountered."

Perhaps the area in which the India REPSO--including various REAT and BEST activities before the establishment of the REPSO--has had its greatest success in the area of policy reform and implementation. The establishment of the Ministry for Non-Conventional Energy Sources can, in part, be attributed to the two projects. A new law concerning the purchase of power and guide lines for its implementation were also influenced by project technical advisors and REPSO staff. Staff from the REPSO assisted in the design of the first Power Purchase Agreement (PPA) using small hydro potential. In other cases, project/mission-funded studies have led to important decisions in both the public and private sectors. As was mentioned above, the most significant of the studies looked at three sugar mills and their ability to use high-pressure boilers in the cogeneration process. This in turn sparked interest among both public and private owners of sugar mills. So far, one mill has been successfully renovated and several others are in the process, some using cost-share prefeasibility money through the REPSO. The owner of the renovated mill was so pleased with the results of the new technology that he related to the evaluation team, "My business is now energy production, sugar is just a by-product."

Other cooperatively funded research has included a nationwide wind mapping exercise, and assistance in the development of a solar 'power tower', the first in the developing world.

### **1.3. Funding, Income, and the Leveraging of Funds**

As with the other REPSOs, REPSO/India began by receiving a \$ 60,000 grant with 50 percent being charged to the BEST project and 50 percent to the REAT project. This first grant was made in March 1995, however, by July 1995 the RECOMM project was entering into implementation through a three-year \$3.1 million grant to broaden the REPSO concept. This has been the most successful attempt at leveraging additional funding to date for either project.

Additionally, since the India Mission has been involved with energy issues for a long time, several of its activities have been jointly funded using BEST and REAT funds. In essence, the availability of outside funding allowed the Mission to leverage additional resources for its renewable energy program and vice-versa.

### **1.4. Management**

At present the REPSO office is staffed by four Indian professionals, and one US advisor. It lacks a manager and a financial person, as was stated above. It also lacks a board of directors, but an advisory board is being put together. Once the manager is in place, the board will be selected. The composition of this board, its powers, and aggressiveness will greatly determine the long term sustainability of the REPSO. The efficiency of hiring a manager before the board is selected was questioned by the Mission.

## **1.5. REPSO Activities**

### **1.5.1. Cost Share Program**

The staff of the India REPSO have three sources of funds to implement their program of cost sharing the expense of prefeasibility and feasibility studies. The BEST project is limited to biomass activities and proposals need to be approved by Winrock/Washington and M/OP. REAT is open to all types of renewable energy projects and proposals need only to be approved by Winrock/Washington. A cost-share proposal under the RECOMM project can be for most types of renewable energy project and needs only the approval of the Mission Project Officer and the appropriate REPSO staff member. Proposals are being received and reviewed at this point with no agreements having been awarded as yet. No formal procedures for soliciting or evaluating proposals have been put in place.

Additionally, if and when, the funds are paid back from the cost share agreements funded under BEST or REAT, the money reverts to USAID/Washington, where as under RECOMM it is returned to the REPSO to further capitalize the cost share fund. Another observer noted that, "REAT and BEST cost-share guidelines are biased towards pre-feasibility studies while RECOMM funds can be used for feasibility studies directly." Given these differences it should be of no surprise that the REPSO has only submitted one cost share proposal to Winrock/Washington for a small hydro-electric project (1/6/97).

### **1.5.2. Assistance to US and Indian Businesses**

Along with the Ministry, the REPSO serves as a clearing house for information, contacts, and networking in the renewable energy field. Over the years, the two projects have supported several trade missions and reverse trade missions, and other forms of information exchange.

### **1.5.3. Reporting, Planning, and Budgeting Activities**

Reporting by the REPSO staff takes place on a quarterly basis, although weekly reports were once required by the Mission. Reports are not shared with other REPSOs. This is rather done through the REPSO Newsletter, the third issue of which covers India.

As with the other REPSOs, planning is a difficult process when the staff does not know how much money they will be allocated from one year to the next. Currently, budgetary planning--the work plans--can only be done with unspent funds from past fiscal years, although the

availability of RECOMM funds allows the India REPSO to be much more adaptable to changing project needs.

This appears to be due to two reasons; the US government funding process which is obligated one year at a time; and, what appears to be extreme 'due diligence' on the part of Winrock/Washington and especially the G/ENV/EET office. Past experience indicates that work plans can take many months in gaining approval while the field offices--the REPSOs--manage with the remains of past budgets.

#### **1.5.4. Renewable Energy Advocacy**

Given the relatively favorable environment vis-a-vis renewable energy which exists in India, the position of the REPSO is more in the area of supporting others with technical information rather than through direct advocacy. This can be seen in the early years of the projects in the number of studies and supporting documentation which were performed, either using only project funds or in conjunction with Mission funds.

As of the end of 1996, one percent of India's energy was derived from renewable sources, while seven percent of new energy coming on line was derived from renewable sources. In one sense advocacy could be thought of as easy in a country such as India, but on the other hand its vast amounts of land and people is daunting. India needs more than 100,000 MW of new capacity by the year 2005. Renewables can help, but not that much.

#### **1.5.5. Opportunities for the India REPSO**

The greatest opportunity open to the REPSO lies in assisting US industry develop markets in India. Lobbying to get the Indian standards for wind generation facilities would be a first step. Examples such as the SELCO Indian/US PV company which has just received a loan from RECOMM for \$150,000 should be replicated.

#### **1.5.6. Sustainability**

Crucial to this category of findings is the issue of the sustainability of the REPSO. In this case, the RECOMM project will sustain it for almost two years more, or, as one person answered the sustainability question, "The continuing presence of a Winrock office in India will assure the REPSO of sustainability."

### **2. USAID Mission**

As was mentioned above, the India Mission has had a long term commitment to energy issues--currently obligating \$7.0 million per year, firmly supports the REPSO concept, and is very willing to explore various options of collaborating with BEST and REAT. RECOMM and its related activities are a part of the Mission's Strategic Objective No. 4 and it is expected to have an impact on the Program Outcome, "Increased Use of Clean Technologies".

### **3. Indian Climate for REAT/BEST Programs**

#### **3.1. Opportunities for Renewable Energy Technologies**

- Enormous potential for the use of electric power
- Renewable resources are abundant; solar, wind, hydro, and biomass are the main ones
- Government is pro-renewable energy, offers subsidies to both renewable and conventional producers
- The vast majority of existing power producers use dirty technologies causing much pollution and contamination.
- Given the move towards decentralization the states now have the power to enact energy legislation; it is at that level that many important policy interventions are made.

#### **3.2. Renewable Energy Barriers**

- Bias towards fossil fuels; partially due to an abundance of high ash coal.
- Reluctance on the part of the financial community to finance renewable energy projects due to high front end cost and relatively longer pay back periods.

#### **3.3. Policy Trends**

- Establishment of the Ministry of Non-Conventional Energy Resources represents an advocate formally placed within government.
- Power generation has been passed from being the responsibility of the Federal government to the state governments. Federal government, with support from the projects, has written guide lines for the states in establishing PPAs. A new law would mandate these guide lines.
- Ministry of Finance provides incentives to renewables by import tax reduction and tax deductions.

## **Field Trip to Indonesia (Jakarta)**

### **Findings**

#### **1. RENI**

Winrock's first attempt to establish a REPSO in 1992 was not successful; ostensibly due to a lack of government readiness to accept small-scale renewable energy technologies and the absence of a legal mechanism for the sale and purchase of private power. A second attempt was made in 1993 through a large engineering consulting firm but failed due to the firm's inexperience in dealing with small-scale, kilowatt, power generation. A final attempt was made in early 1996 when Yayasan Bina Usaha Lingkungan (YBUL), a local environmental NGO, was selected to implement the REPSO-type program under the name of the Renewable Energy Network for Indonesia (RENI). For continuity between countries, the terms REPSO and RENI should be seen to be synonymous.

##### **1.1. Credibility**

While the RENI program was only established in May 1996, it has rapidly gained credibility as a source of information and contacts in the renewable energy field. Evidence of this is the recently established Association of Indonesian Renewable Energy Companies (AIREN) with 70 members having been admitted through 1/97, the preparation of a Technical Guide to Renewable Energy in Indonesia, and the organization of a successful trade mission and workshop on the commercialization of renewable energy for the World Bank.

Key to its establishment and early credibility of the RENI was YBUL's relationship with the Environmental Enterprises Assistance Fund (EEAF) and its track record of feasibility cost-share agreements for environmentally friendly projects including those dealing with renewable energy. Since 1993, the EEAF has provided funding for six cost-share agreements, two of which have involved some form of renewable energy.

##### **1.2. Capabilities**

The RENI program is managed by a part-time senior scientist who has had many years of experience working in the renewable energy field for the GOI's Technological Institute. YBUL's staff of four full-time professionals includes an environmental engineer and a financial manager and supports and coordinates with ongoing RENI activities.

The ability to leverage additional funding is another indicator of YBUL's increasing capability and its ability to support and promote its RENI program. Following is a partial listing of funds leveraged over the past year:

- \$2.0 million has been pledged from a private domestic bank to support the current EEAF program with matching loans; including loans for renewable energy projects.

- \$700,000 has been transferred by the USAID Mission in Jakarta from the regional Asia Sustainable Energy Initiative (ASEI) program through Winrock to the RENI, partially to support its cost-share program, although no budget had been approved as of the time of the evaluation.
- It now manages a \$750,000 grants program for the United Nations Development Program (UNDP) which includes among its targets rural electrification and renewable energy.
- The Japanese International Cooperation Agency (JICA) provided YBUL with \$35,000 to organize a conference of APEC countries entitled "Stimulating Sustainable Markets for Renewable Energy in the Asian-Pacific Region".
- The International Institute for Energy Conservation granted YBUL \$20,000 to research and publish a trade guide and to maintain a data base on energy efficiency.

### **1.3. Funding and Income**

The agreement providing funding to the RENI for operational support was not signed between YBUL and Winrock until late 1996 (50 percent BEST, 50 percent REAT) and payments have been extremely slow in gaining approval. Prior to that and continuing to the present, operational expenses have been covered from the development budgets of other projects. Additionally, as of January 1997, the RENI had received no information as to the disposition of the \$700,000 transferred by the Mission to Winrock, partially for its cost-share program. In contrast, the ECAF program this year will provide YBUL with \$38,000 for operating costs which is generated through interest payments stemming from ECAF loans.

### **1.4. Management**

It is too soon to make any valid comments on the management of YBUL and the RENI program. Nevertheless, as more services are provided and additional activities undertaken, the staffs of both RENI and YBUL will have to increase.

YBUL has an advisory board of eight people who meet yearly but who interact informally with much greater frequency. The membership includes representatives from USAID, Winrock, the PLN, bankers, and others from the private sector.

### **1.5. REPSO Activities**

#### **1.5.1. Cost-Share Program**

In its first round of proposals RENI received six credible requests for REAT cost-shared feasibility studies. (BEST funds cannot be used for government owned facilities. Since 62 of the country's 70 sugar mills are government owned, the use of BEST funds is extremely limited.) A snag, however, has developed where the financial records required for the proposals to go

forward have not been presented by the six firms. The speculation was that these records were considered proprietary information and not available to the RENI.

### **1.5.2. Assistance to Indonesian Businesses**

Through its organization of the industry association the RENI has provided a centralizing function for the flow of technical information as well as market opportunities. It will also allow future renewable energy trade missions to Indonesia to have a single coordinated and better organized point of contact. The president of the association predicted to the evaluation team that they would be financially self-supporting within the year.

### **1.5.3. Reporting, Planning, and Budgetary Activities**

Quarterly Reports are required by Winrock and the Cooperative Agreement although the president of YBUL reports weekly to her Winrock counterpart via fax or e-mail. The staff of YBUL and the RENI have only gone through the preparation of one annual work plan. Its negotiation was tedious and protracted, and much time passed before the money began to flow. During this period the president of YBUL received no salary for six months. Indeed, the most serious complaint by YBUL and the RENI concerning their relationship with the Winrock approval and disbursement process (They did not know of the extent to which G/ENV/EET is also involved in the approval process.)

Another example of this was referred to above and relates to the \$700,000 which the Jakarta Mission transferred to G/ENV/EET last summer for use in the RENI cost-share program among other uses. As of the end of January, the RENI had not received a budget, a scope of work, or even a confirmation that the money would eventually arrive.

### **1.5.4. Renewable Energy Advocacy**

Since its inception in 1993, YBUL with financial support from the EEAF and other local and international organizations has been a firm advocate for environmental issues within the context of sound business management. Renewable energy has been at the forefront of this orientation.

In this area, the newly established industry association hopes to take over the functions of policy and advocacy from the RENI as soon as it can.

### **1.5.5. Opportunities for the RENI**

As was also the case in Guatemala, the feasibility stage of a renewable energy project is relatively easy compared to getting it financed once the feasibility has been demonstrated. YBUL is attempting to address this restriction through direct dealings with the banking sector. One banker is already on the YBUL advisory board and has agreed to make \$2.0 million available through the EEAF cost-share mechanism. Nevertheless, even this person agrees that this is a very small amount compared to the potential for larger scale renewable energy projects.

There therefore appears to be an opportunity for YBUL and the RENI to make the case to other bankers for ever larger projects which will in turn affect more people.

The World Bank has recently approved a line of credit for \$300.0 million for lending for renewable energy projects through the commercial banking sector. This money has not moved as expected, possibly due to the commercial terms under which it is offered. This represents an opportunity for the RENI to serve as a bridge between the bankers and potential renewable energy borrowers.

In related discussions concerning the value of trade missions, be they to Indonesia by US entrepreneurs or to the US by Indonesian entrepreneurs, they should contain representatives from the banking sector; in the case of Indonesian bankers, so they can see the technologies actually working, and for the US bankers, so they can interpret the local market conditions and potentials for themselves. The suggestion was also made that US entrepreneurs should attempt to learn more about the Indonesian culture and language, as well as attempt to deal more on a one to one basis rather than in groups.

#### **1.5.6. Sustainability**

It is currently premature to make an assessment of the future sustainability of the RENI program or of YBUL itself, Nevertheless, given the outstanding track record which YBUL has demonstrated to date, sustainability appears to be of a lesser concern.

### **2. USAID Mission**

Since 1985, energy issues have not been a priority of the USAID Mission. They do, however, retain an energy advisor and fund small discreet activities dealing with energy issues from time to time. A recent example of this was a Mission-funded, two-week course on cogeneration technology for 30 sugar mill managers and technicians. The Mission also transferred the \$700,000 mentioned above. In addition to increasing the RENI's cost-share program, a portion of these funds will also provide for a Regulatory Advisor to the Ministry of Energy and Mines. The person chosen would also be an advocate for renewable energy.

The Mission has also been involved in promoting policy changes on energy issues to government. In the most obvious case, the Mission worked with the World Bank and its Energy Sector Loan to allow for private power purchase agreements, especially small scale ones.

### **3. Indonesian Climate for REAT/BEST Programs**

#### **3.1. Opportunities for Renewable Energy Technologies**

- 55 percent of households have no electricity.

- A Resource Assessment conducted under BEST showed high potential for biomass energy extraction in the case of bagasse and oil palm waste.

### **3.1.1. Barriers to Renewable Energy**

- Two arguments confront the adoption of improved biomass technology in the country's sugar industry, by far its greatest producer. As part of the government's transmigration program, the sugar industry will gradually be moved to islands other than Java and Sumatra. It would therefore be poor planning to adopt high pressure boiler bagasse-based technology at this point when the mill will be closed in the future. 62 out of the 70 sugar mills in Indonesia are owned by the government. As such, it is said, "...they are not run for profit, and therefore economic arguments make no sense."
- The government power authority, the PLN, loses money on its rural electrification program making it more difficult for renewables to compete. It also pays less per kwh produced from renewable sources than from fossil fuel. Furthermore, the current PPA procedures allow for only one year to complete the feasibility study and arrange for financing from the time of signing the PPA.
- There is a government transportation subsidy for fossil fuels to smaller, more distant islands.
- There appears to be a generalized, less than expected, demand in rural areas for electricity. One person interviewed suggested that, "People appear to be content with 5-10 watt light bulbs."
- The banking sector is currently unattracted to renewable energy loan, with working capital being the most difficult to obtain. High front end costs and a relatively longer repayment schedule was cited as the most frequent response. Also, the lack of successful examples close at hand for demonstration purposes.

### **3.2. Policy Trends**

- It is the stated policy of government to privatize the energy sector to stimulate additional power production.
- Concentration in the biomass field will be first on the pulp and paper industry, and second on rice hulls.
- PPAs have only been possible since 1995, but since that time 8,000 MW of power purchase agreements have been signed including both conventional and renewable sources. However, far fewer people have applied for SPPAs than anticipated. Some speculate that since the financing available for this comes from the World Bank to the

commercial banking sector where it is loaned out at commercial rates, these rates are too high for the risk and economic returns involved.

- The government is gradually reducing the subsidies it pays to power producers, (which will make renewables less competitive) while the Work Bank is pressuring for an increase in electricity rates by 1998.

#### **4. Evidence of BEST/REAT Project Impact**

##### **4.1. Trade Missions**

- Several of the US participants considered the last trade mission to have been a success, although some US participants were not into exports, and no financial/investors were included in the mission.

##### **4.2. Resource Assessments**

- BEST of Biomass capacity.

##### **4.3. Sub-contractors**

- VITA did help Westinghouse.
- CREST web site just discovered.

**5.2. Tables**

Table 1. Summary of Work Plan Actions, ECRE

Table 2. Summary for Reporting Requirements for US/ECRE Cooperative Agreements

Table 3. Due and Submitted Dates for Quarterly Reports

Table 4. Project Design Summary Logical Framework

Table 5. Budget History for REAT Projects - Extracted from Work Plans

Table 6. Priority Rankings of Recommendations

Table 1. Work Plans, US/ECRE

Agreement	Budget (\$)	Workplan Due	Workplan Filed	Workplan Approved	Comments
DHR-5730-A-00-0086-00	250,000	9/6/90 + 30 days = 10/6/90	Never		ECRE apparently assumed the entire budget was to be used to develop a program plan for subsequent years and never prepared a work plan.
DHR-5730-A-00-0086-00 Mod 2	2,789,600	8/24/91 + 30 days = 10/24/91	5/20/91 "Proposal for Expansion of Agreement"	8/24/91	The 5/20/91 document was attached to the 8/24/91 agreement. We assume this constitutes agreement by USAID. The actual dollar amounts were slightly different.
DHR-5730-A-00-0086-00 Mod 3	2,621,500	9/30/92	None found	9/30/92	Agreement (Attachment A) is an undated submission to USAID that must have served as the work plan for Mod 3.
LAG-5730-A-00-3049-00 Year 1	4,440,098	9/28/93 + 60 days = 11/28/93	4/8/94 12/93 *	N/A but reports are that it took "months" 4/8/94 *	
LAG-5730-A-00-3049-00 Year 2			2/27/95 1/95 *	N/A	Approval date missing.
LAG-5730-A-00-6002-00 Year 1	2,442,328	1/10/96	January 1996	N/A	Approval date missing.

\* per US/ECRE responses to draft report

**Table 2. Summary for Reporting Requirements for US/ECRE Cooperative Agreements**

	<b>ECRE #1</b>	<b>ECRE #2</b> (Eff. Date 9-28-93) (Completion Date 10-31-95)	<b>ECRE #3</b> (Eff. Date 11-1-95)
<b>Annual Workplan</b>	Not required	Due 60 days from effective date of agreement	First due by 1/10/96; second by 1/3/97. Project officer comments in 30 days of receipt of annual workplan; project officer must approve all workplans prior to commencement of activities.
<b>Quarterly Performance Report</b>	Not required	Due 30 days after end of the reporting period (quarter).	Due within 30 days of the end of the quarter. Must meet requirements specified in 22CFR226.51.
<b>Research Reports and Documents</b>	Not required	Due 60 days of completion of the activity	Not applicable.
<b>Special Reports</b>	Not required	As necessary	As necessary
<b>Final Report</b>	Not required	Due within 90 days of the estimated completion date of the cooperative agreement	Due within 90 days of the estimated completion date of the cooperative agreement.
<b>Training Reports</b>	Not required	Required when non-U.S. citizens are trained outside their home country - due quarterly.	Not applicable.
<b>Trip Reports</b>	Not required	Due within 10 working days following completion of international trips	Not applicable.
<b>Annual Activity Report</b>	Not required	Due within 30 days of the annual anniversary of initial date (9/28)	Not applicable.
<b>Project Implementation Plan</b>	Not required	Due not later than 60 days from the effective date of the cooperative agreement.	

*Final Evaluation of the REAT and BEST Projects*

---

<b>Project Officer Approval Requirements</b>	Not required	Selection of staff. Annual workplan and revisions. Field visits. Field activities. Consultants. Participants. Subcontracts and Subagreements. Financial management system.	Annual workplan and revisions (within 45 days of approval becomes automatic). Key personnel and positions. Monitoring and Evaluation. Revolving Fund Program.
--	--------------	---	--

**Table 3. Due and Submitted Dates for Quarterly Reports**

US/ECRE	Report Due	Report Submitted
<b>AID I</b>	Not required	
<b>AID II (9/28/93)</b>	O + 30 days	
O1 (12/28/93)	1/28/94	4/1/96
O2 (3/28/94)	4/28/94	
O3 (6/28/94)	7/28/94	
O4 (9/28/94)	10/28/94	
O5 (12/28/94)	1/28/95	
O6 (3/28/95)	4/28/95	
O7 (6/28/95)	7/28/95	
O8 (9/28/95)	10/28/95	
<b>AID III (12/1/95)</b>	O + 30 days	
O1 (3/1/96)	4/1/96	4/96
O2 (6/1/96)	7/1/96	7/96
O3 (9/1/96)	10/1/96	11/96
O4 (12/1/96)	1/1/97	
O5 (3/1/97)	4/1/97	
<b>Winrock</b>		
<b>BEST (11/6/95)</b>	O + 90 days	
O1 (2/5/96)	5/5/96	"about on time"
O2 (5/5/96)	8/5/96	
O3 (8/5/96)	11/5/96	
O4 (11/5/96)	2/5/97	
O5 (2/5/97)	5/5/97	
<b>NGO/REI (11/6/95)</b>	O + 30 days	
O1 (2/5/96)	3/5/96	5/96
O2 (5/5/96)	6/5/96	11/22/96
O3 (8/5/96)	9/5/96	11/27/96
O4 (11/5/96)	12/5/96	12/13/96
O5 (2/5/97)	3/5/97	

**Table 4. Project Design Summary Logical Framework**

Life of Project:  
 From FY 85 to FY 89  
 Total US Funding: \$8.2 million  
 Date Prepared: 4/2/85

Project Title and Number: Renewable Energy Applications and Training Project

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><b>Program or sector goal: The broader objective to which this project contributes:</b>                      To promote the economic growth and social progress of developing nations by providing energy for economic development through the expanded deployment of economically viable renewable energy and power options.</p>	<p><b>Measures of Goal Achievement:</b>                      Economic indicators such as the ratio of oil imports to export earnings, direct and indirect employment benefits, increased production and new enterprises brought about by expanded energy availability. Social indicators such as improved health, education, transportation and communication.</p>	<p>Information and statistics generated within the project, project evaluations and reports by the World Bank, the UN and other international organizations.</p>	<p><b>Assumption for achieving goal targets:</b>                       That economic growth will be significantly enhanced when the energy inputs necessary for development are provided in a reliable and economically viable fashion.</p>
<p><b>Project Purpose:</b>                      To develop renewable energy and power systems and related policy guidance which contribute significantly to:                      Removing energy constraints to production, strengthening developing country institutions, involving the U.S. and indigenous private sector, developing an investment portfolio of "bankable" projects, improving agro-industry, health, communications, education and rural development.</p>	<p><b>Conditions that will indicate purpose has been achieved: End of project status.</b>                      Financial Commitments from public and private financial institutions; existence of institutions to manage, operate, and maintain renewable systems; existence of country policies to encourage economically viable systems; a published body of authoritative reports, case examples, monographs and software.</p>	<p>Evaluations at end of FY 87 and 89. National energy and economic development plans; evaluations of institutional capability, financial commitments from international lenders and private capital sources.</p>	<p><b>Assumption for achieving purpose:</b>                       That governments have been motivated by: increased oil and fuelwood prices, the foreign exchange required to develop indigenous energy supplies, and the impossibility of development without economically viable, adequate, reliable supplies of energy; and are committed to improving the efficiency of their institutions and attracting external capital for development.</p>

187

<p><b>Outputs:</b></p> <ol style="list-style-type: none"> <li>1. Country-level energy investment portfolios, plans and policies, leading to financial commitments.</li> <li>2. Studies and "state-of-the-art" reports on renewable energy and power systems.</li> <li>3. Training manuals, case studies, data-bases and computer software on systems and projects.</li> <li>4. Conference and workshops for country energy policy-makers and technical experts.</li> </ol>	<p><b>Magnitude of Outputs:</b></p> <p>An estimated 8 country investment portfolios, 8 major technology evaluation reports, 5 case studies, training monographs, a data-base, and 5 workshops/conferences.</p>	<p>Project implementation documents, including PIO/Ts, contractor reports, and project manager's annual reports.</p>	<p><b>Assumption for achieving outputs:</b></p> <p>That adequate host country government commitment and funds will be available.</p>
<p><b>Inputs:</b></p> <ol style="list-style-type: none"> <li>1. Information on country energy demands markets, needs and prices.</li> <li>2. Data on capital investment, manpower and resource requirements to implement renewable energy and power systems. Data on competing options.</li> <li>3. Analytical methods, such as energy demand forecasting based on development targets, economic and financial analysis, risk assessment, decision theory, social and environmental impact, optimal engineering design procedures.</li> </ol>	<p><b>Implementation Target (Type and Quantity)</b></p> <p>FY 85: Two country portfolios, three state-of-the-art reports, one workshop.  FY 86-89: Additional investment portfolios, technology evaluations, case studies, data-base and conferences.</p>	<p>Evaluation and monitoring by A.I.D. project office, contractor reports.</p>	<p><b>Assumption for providing inputs:</b></p> <p>That project budgets are sufficient to procure the necessary technical services; that direct-hire staff will provide effective management, and that the required expertise can be obtained from private sector, national laboratory, university or non-profit sources.</p>

Table 5

REAT Budgets, Amounts in Thousands										
	1991	1992	1993	1994	1995	1996	1996	1997	Total	Total
	ECRE	ECRE	ECRE	ECRE	ECRE	ECRE	Winrock	ECRE		ECRE
US/ECRE Management	250		100	448	429	405		2,967	1,632	4,599
Subcontracts										0
IFREE		999	900	1,258	474		375		4,006	3,631
RETI		352	263	165	248		275		1,302	1,027
CREST				245	241		200		686	486
VITA		300	275	321	75		64		1,035	971
Winrock (REPSOs)		502 <sup>1</sup>	463	525 <sup>2</sup>	0 <sup>3</sup>		1,111 <sup>4</sup>		2,600	1,489
Winrock (UI and MDBI)							95 <sup>5</sup>			
<b>Subcontract Subtotal</b>	<b>0</b>	<b>2,152</b>	<b>1,900</b>	<b>2,514</b>	<b>1,038</b>	<b>0</b>	<b>2,025</b>	<b>0</b>	<b>9,629</b>	<b>7,605</b>
<b>Associations</b>										
US/ECRE (internal)				433					433	433
AWEA		184		245	185				614	614
ETEC (development)		80							80	80
SEIA				50	50				100	100

<sup>1</sup> \$50,000 was withheld by US/ECRE for "management."

<sup>2</sup> \$152,000 de-obligated because funds were not committed.

<sup>3</sup> Although no funds were budgeted for Winrock by US/ECRE in 1995, \$448,000 was actually paid in that year. The money presumably came from underruns in previous years.

<sup>4</sup> Of this \$1,110,500, \$911,000 was budgeted for Winrock-operated REPSO offices in Brazil, India, and the Philippines, and for Washington management or consultants, while only \$119,000 was budgeted for NGO REPSOs in Guatemala and Indonesia and for all cost shares.

<sup>5</sup> These funds were the actual spending for the Utility Initiative and Multilateral Development Bank Initiatives by Winrock in 1996.

*Final Evaluation of the REAT and BEST Projects*

US/ECRE					100	101			201	201
NHA					50				50	50
NBIA					50				50	50
NAESCO					50				50	50
GEA					50				50	50
Small Bus.						224			224	224
<b>Association Subtotal</b>	<b>0</b>	<b>265</b>	<b>0</b>	<b>728</b>	<b>535</b>	<b>325</b>	<b>0</b>	<b>0</b>	<b>1,853</b>	<b>1,853</b>
<b>Sectors</b>										<b>0</b>
Africa		24	80	200	230	1,220			1,754	1,754
Central America				250		350			600	600
Latin America									0	0
Asia									0	0
MDB Assistance						412			412	412
<b>Sector Subtotal</b>	<b>0</b>	<b>24</b>	<b>80</b>	<b>450</b>	<b>230</b>	<b>1,982</b>	<b>0</b>	<b>0</b>	<b>2,766</b>	<b>2,766</b>
<b>Outreach Activities</b>			542						542	542
Conferences		74		175		301			550	550
Trade Missions						305			305	305
Reverse Trade Missions				125					125	125
Policy Reform						492			492	492
Climate Change						300			300	300
<b>Outreach Subtotal</b>	<b>0</b>	<b>74</b>	<b>542</b>	<b>300</b>	<b>0</b>	<b>1,398</b>	<b>0</b>	<b>0</b>	<b>2,315</b>	<b>2,315</b>
<b>Totals</b>	<b>250</b>	<b>2,516</b>	<b>2,622</b>	<b>4,440</b>	<b>2,233</b>	<b>4,110</b>	<b>2,025</b>	<b>2,967</b>	<b>18,195</b>	<b>19,137</b>



Table 6. Priority Rankings of Recommendations by Organization

<b>HIGH</b>	<b>US/ECRE</b>	<b>Winrock</b>	<b>USAID</b>
4.4 Lack of Investment Capital	X	X	X
4.6 Benefits to US Industry	X		
4.13 Sustainability of US/ECRE	X	X	
4.14 Sustainability of REPSOs		X	
4.16 G/ENV/EET Program Management			X
<b>MEDIUM</b>			
4.1 Planning	X	X	X
4.2 Reporting	X	X	X
4.3 Program Accomplishments	X	X	X
4.5 Cost-Shared Feasibility Studies		X	
4.8 Information Dissemination	X	X	
4.11 Budgetary Considerations	X		
4.7 Management of Subcontractors		X	
4.12 Management Burden	X		
4.17 Procurement Mechanism	X	X	X
<b>LOW</b>			
4.10 Organizational Structure		X	
4.9 Mission Buy-Ins	X	X	X
4.15 REPSO Staffing		X	

### **5.3. Figures**

Figure 1. World Oil Prices

Figure 2. Official Development Assistance for Renewable Energy from Selected Donors

Figure 3. US/ECRE Organizational Chart

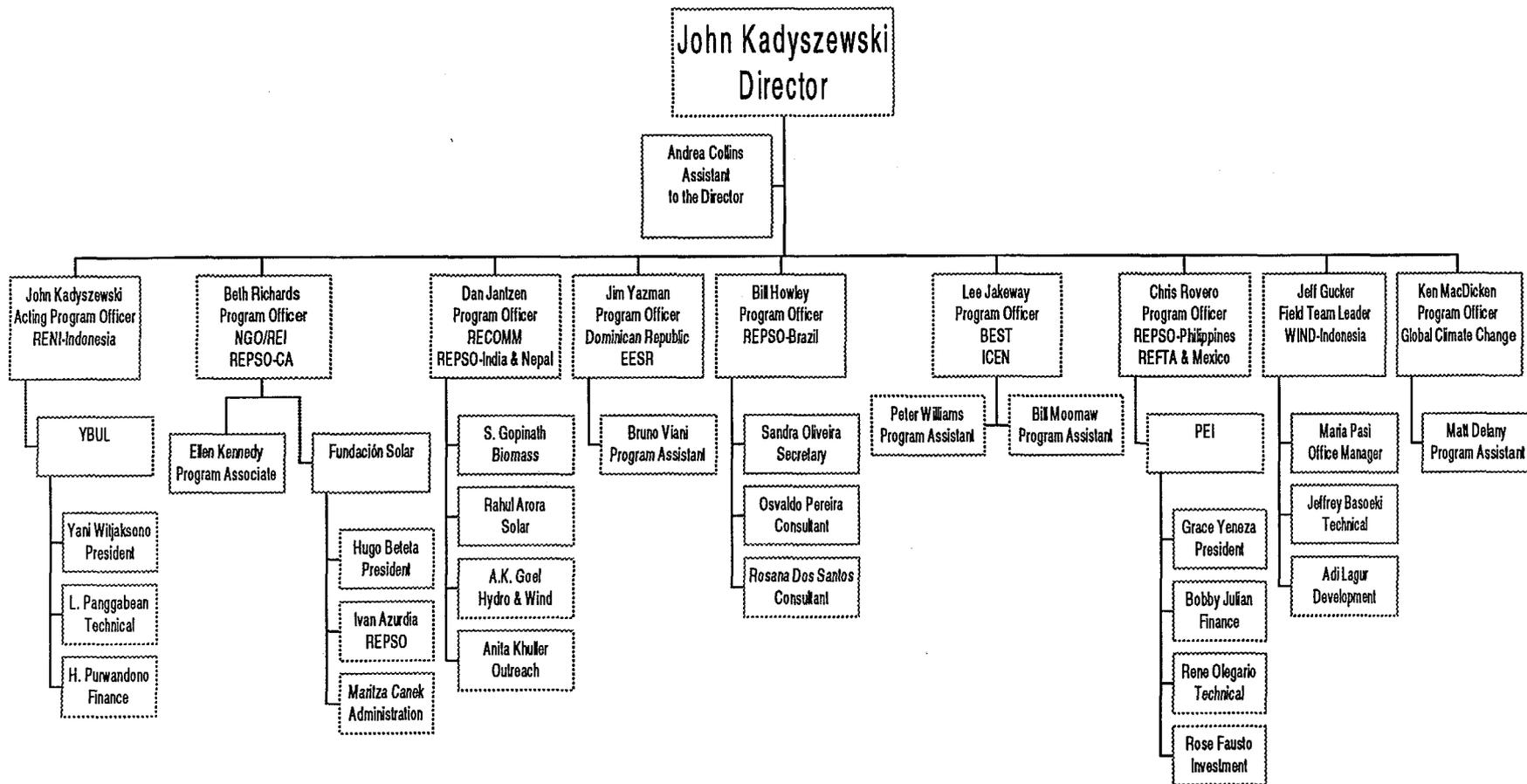
Figure 4. Renewable Energy Division of Winrock Organizational Chart

938

# RENEWABLE ENERGY DIVISION

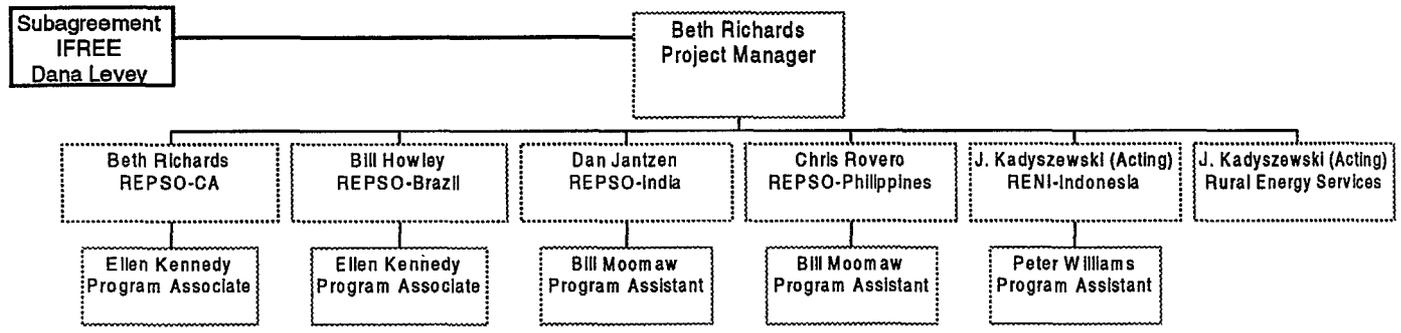
## Current Reporting Relationships and Management Responsibilities

4/24/97



930

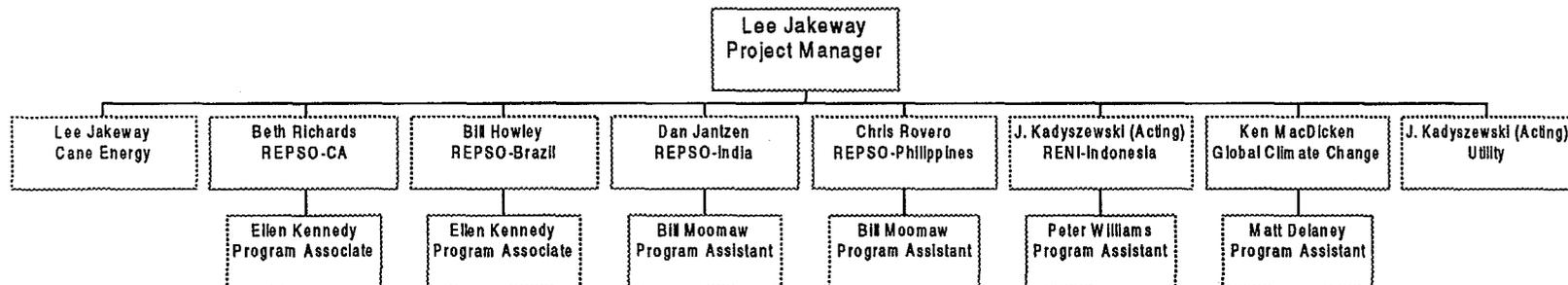
# NGO/REI PROJECT 4/24/97



QSC

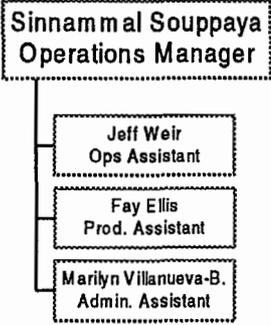
# BEST PROJECT

4/24/97



q3 d

**OPERATIONS UNIT - RENEWABLE ENERGY DIVISION**  
**4/24/97**



## **5.4. Contacts List**

### **UNITED STATES**

#### **CREST**

Michael Totten, Director

#### **Environmental Enterprises Assistance Fund**

Noel J. Sumulong, Manager, Asia Region

#### **International Fund for Renewable Energy and Energy Efficiency**

Dana B. Levy, Vice President

#### **National Bioenergy Industries Association**

Alia Ghandour, Director of International Programs

#### **United States Export Council for Renewable Energy (US/ECRE)**

Frederic A. Heim, Jr., CPA, Director of Finance and Administration

Stephen McNulty, Director of Operations

Scott Sklar, Executive Vice President

Griffin M. Thompson, Director, Asia Programs, Coordinator, Climate Change Program

Gregory F. Wandell, Contracts Manager

#### **Volunteers in Technical Assistance**

Joseph F. Sedlak, Director of Government Relations

#### **Winrock International**

Todd R. Bartholf, Asia Program Manager, Renewable Energy and the Environment Program

William Jefferson Gucker, Field Team Leader, Renewable Energy and the Environment Program, Windpower for Islands and Nongovernmental Development (WIND) Project

Lee A. Jakeway, Program Officer, Renewable Energy Division

John Kadyszewski, Director, Renewable Energy

Ellen B. Kennedy, Coordinator, Latin America, Renewable Energy and the Environment Program

Elizabeth H. Richards, Program Manager, International Projects, Renewable Energy Technology Assistance Center

Sinnammal Souppaya, Operations Manager, Renewable Energy and the Environment Program

Peter Williams, Coordinator, Indonesia

### **GUATEMALA**

#### **ACNUR/CECI**

Julia Sánchez, Coordinadora, Programa PIR, Proyectos de Impacto Rápido

#### **ANACAFE**

Jesus Alvarado

**CAEM**

Carlos Bonifasi

**Cordon y Merida, Ings.**

Ing. Luis Felipe Mérida I.

**EEGSA**

Jorge Alonso

**Fundacion Solar**

Maritza Canek

Hugo Beteta

Ivan Azurdia-Bravo

Roberto Godoy

Edward Morales

Carmen Torselli

**FUNDESA (Fundacion Para el Desarrollo de Guatemala)**

Dunia Miranda, Executive Assistant, Executive VP

Silvia Barrios

**Instituto de Fomento Municipal**

Lic. José Miguel Gaitán Alvarez, Presidente

**Plan International ROCCA**

Benjamin E. Phillips, Regional Grants & Public Relations Coordinator

**Programa de las Naciones Unidas Para el Desarrollo (PNUD)**

Rachel T. Graham, Oficial de Programas de Medioambiente

**Reserve de Biósfera Sierra de las Minas**

Ing. Oscar Rojas, Director de Protección

**Tecno Rural (Tecnología Rural Para el Desarrollo Sostenible)**

Ing. José Manuel Tay O., Gerente General

**U.S. Agency for International Development**

Licda. Silvia Alvarado de Cordova, Program Specialist

**NEW DELHI**

**Indian Renewable Energy Development Agency Limited**

Dr. V. Bakthavatsalam, Managing Director

**Ministry of Non-Conventional Energy Sources**

B.M.L. Garg, Director

Ajit K. Gupta, Adviser & Head, Power Group

Dr. Praveen Saxena, Director

**Office of Environment, Energy & Enterprise**

**U.S. AID, New Delhi**

Dick Goldman, Director

David W. Hess

N.V. Seshadri, Program Specialist (Energy)

Kavita Sinha, Program Specialist

**REPSO**

Rahul Arora, Project Officer, Photovoltaics

A.K. Goel, Program Manager, Small Hydro & Wind

S. Gopinath, Program Manager

Dan Jantzen, Renewable Energy Advisor

**Thiru Arooran Sugars Limited**

Ram V. Tyagarajan, Chairman & Managing Director

**U.S. AID, American Embassy**

Mohan D. Jotwani, Director, Resource Center

**JAKARTA**

**Agency for the Assessment and Applic. of Technology**

Ir. Suryo Busono, Energy Project Leader

Directorate for the Energy Technology

Dr. L. M. Panggabean, Senior Energy Researcher

Ir. Hartiniati Soedioto, Project Manager

Coal Liquefaction and Renewable and Biomass Cogen., BPPT

**Bank Bira**

Bambang Panutomo, President Director

**Bukaka**

Drs. Tagor Ibrahim Ak, Vice President

Ir. Eddy Z. Basjar, Corporate Secretary

Betha A. Djardjis, President

**Environmental Enterprises Assistance Fund**

Noel J. Sumulong, Manager, Asia Region

**Envitech Perkasa**  
Idrus Mulachela, Director

**Indonesian Sugar Council, Directorate General of Estate, Ministry of Agriculture**  
Soetojo, Chief Executive Officer

**Pt. Lingsing Rens Corporation**  
Didi Rasyadi, Direktur Utama/CEO

**Pt. PLN (Persero), Funding Division, Tariff Subdivision**  
Mochamad Romadhon, Industrial Engineer / Energy Economist

**U.S. AID, Jakarta**  
Edi Setianto, Energy Officer

**Yayasan Bina Usaha Lingkungan**  
Hardjono Purwandono, Investment Director  
Yani Witjaksono, President  
Dr. L. M. Panggabean, Coordinator  
Renewable Energy & Energy Conservation, RENI Program

## 5.5. Bibliography

### From US-ECRE:

#### *For LAG-5730-A-00-3049-00:*

- Annual workplan, (handwritten date of April 8, 1994), year 1.
- Annual workplan, (handwritten date of 02/27/95), year 2.
- Cooperative Agreement, September 28, 1993.
- Cooperative Agreement, Year II, 2/27/95.
- Quarterly progress report, number 1 for period of performance Sept. 28-December 31, 1993.
- Quarterly progress report, number 2 for period of performance January 1-March 31, 1994.
- Quarterly progress report, number 3 for period of performance April 1-June 30, 1994.
- Quarterly progress report, number 4 for period of performance July 1-September 30, 1994.
- Quarterly progress report, number 5 for period of performance October 1-December 31, 1994.
- Quarterly progress report, number 6 for period of performance January 1-March 31, 1995.
- Quarterly progress report, number 7 for period of performance April 1-June 30, 1995.
- Quarterly progress report, number 8 for period of performance July 1-October 31, 1995.

#### *Other Documentation: LAG-5730-A-00-3049-00*

- Executive Summary of "The North American Free Trade Agreement: Expanding Opportunities for U.S. Renewable Energy and Energy Efficiency Industries", US-ECRE, November 1993.
- Final report (period of performance September 28, 1993-October 31, 1995).
- Financing Renewable Energy Technologies-Brochure.
- Full report of "The North American Free Trade Agreement: Expanding Opportunities for U.S. Renewable Energy and Energy Efficiency Industries", US-ECRE, November 1993.
- Improving the Quality of Life with Renewable Energy-brochure.

#### *For LAG-5730-A-00-6001-00:*

- Annual Workplan, for the period from November 6, 1995 through November 5, 1996.
- Grant for \$2,264,000 to Winrock for "NGO/Renewable Energy Initiative," Nov. 9, 1995.
- Quarterly Report, January-March 1996.
- Quarterly Report, April-June 1996.

#### *For LAG-5730-A-00-6002-00:*

- Annual work plan, Year 1, January 1996.
- Quarterly status report number 1, 2, 4-8 for period of performance September 28, 1993 through October 31, 1995.
- Quarterly performance report, number 4 for period of performance July 1 to September 30, 1996.
- Quarterly performance report, number 1 for period of performance November 1, 1995 to December 31, 1996.
- Quarterly performance report, number 2 for period of performance January 1, 1996 to March 31, 1996.
- Quarterly performance report, number 3 for period of performance April 1 to June 30, 1996.
- Updated annual work plan to include WEATS 96, year 1 (originally dated document 01/96), revision date 09/17/96).

***Other Documentation: LAG-5730-A-00-6002-00***

- Cooperative Agreement, "Development Renewable Energy Applications and Training Program," December 1, 1995.
- Energy as an Instrument for Socio-Economic Development, UNDP.
- Estudio para el Establecimiento de Una Metodología para el Cálculo de Costos Marginales
- McNulty, Stephen, USECRE memo to Leticia Solaun, TR&D, "Evaluation of REAT Cooperative Agreements: LAG-5730-A-00-6002-00 (USAID III), LAG-5730-A-00-3049-00 (USAID II) and Number DHR-5730-A-00-0086-00 (USAID I)," December 3, 1996.
- US/ECRE trade missions to the Philippines and Indonesia, briefing book.

***DHR-5737-A-00-9058-00-BEST***

- A Brief History of Winrock's Renewable Energy Activities in Central America: 1990-96. December 1996.
- Baling Sugarcane Tops and Leaves: The Thai Experience. August 1991. Report No. 91-15.
- Export Power Options for Five Sugar Mills in Costa Rica, May 1991. Report No. 91-09.
- Generación Eléctrica y Lineamientos para Contratos con Cogeneradores en Guatemala, prepared by Winrock and T.Head Inc. April 1991. Report No. 91-08.
- Interconnection of Sugar Mills to the Thailand Electric Power Grid, Issues and Prospects. August 1990. Report No. 90-02.
- International Cane Energy News-Newsletter of the International Cane Energy Network, July 1993.
- International Cane Energy News-Newsletter of the International Cane Energy Network, January 1994.
- International Cane Energy News-Newsletter of the International Cane Energy Network, July 1994.

- International Cane Energy News-Newsletter of the International Cane Energy Network, August 1995.
- List of Publications on Cane Energy, International Cane Energy Network, January 1994.
- Office of Energy and Infrastructure Portfolio Review. October 3, 1991.

***BEST Project:***

- Activity Summary form: Renewable Energy Project Support Office, Costa Rica. April 1993.
- Activity Summary form: Renewable Energy for Rural Development Initiative, Brazil. September 1995.
- Activity Summary form: Renewable Energy Project Support Office, Philippines. October 1993.
- Activity Summary form: Renewable Energy Project Support Office, Guatemala, April 1994.
- BEST Cooperative Agreement between Winroack and USAID, August 31, 1989.
- BEST Annual workplan for 1995/96.
- BEST Project, proposed program plan for FY 1992.
- Cooperative Agreement between BEST and Ajinkyatara Cooperative Sugar Factory, Ltd.
- MOU between REPSO and Binny Engineering Limited, October 14, 1996.
- Office of Energy, Bureau for Science and Technology, USAID project paper, "Biomass Energy Systems and Technology Project (BEST) Project Number 936-5737, January 1989.
- Office of Energy, Bureau for Science and Technology, United States Agency for International Development, *Interconnection of Sugar Mills to the Thailand Electric Power Grid: Issues and Prospects*, Biomass Energy and Systems and Technology Project, DHR-5737-A-00-9058-00, August 1990.
- Quarterly performance report, January-March 1996.
- Quarterly performance report, July-September 1995.
- Quarterly performance report, April-June 1995.
- Quarterly performance report, October-December 1995.
- Quarterly performance report, January-March 1995.
- Quarterly performance report, April-June 1996.
- Sam Schweitzer and David Jhirad, Office of Energy, Bureau for Science and Technology, project paper, "Renewable Energy Applications and Training Project," July 1985.
- Summary form: Jamaica Bagasse Private Power Feasibility Cost-share and Follow up. March 1992.
- Summary form: Global Wood Energy Workshop Activity. May 1992.
- Summary form: Honduras Sugar Case Energy Activity. September 1992.

***Other Documentation***

AEP-0085-I-00-6016-00 Task Order 1, Article I - Title, "Project: Agreements Relevant to the Evaluation, REAT and BEST Projects."

Asia-Pacific Economic Cooperation, Regional Energy Cooperation Working Group, Technology Cooperation Expert, Group, Compendium of Renewable Energy Programs and Projects in Asia Pacific Economic Cooperation (APEC) Member Economies, November 1995.

Asia-Pacific Initiative for Renewable Energy and Energy Efficiency, pamphlet, "Exhibition 14-16 October 1997, Jakarta Convention Center."

Community Power Corporation and Idaho Power Company and NREL, Summary Report, Small Diesel Plant, Efficiency Enhancement Study, September 9, 1996, prepared for USECRE.

CORECT, pamphlet, "Financing Renewable Technologies: Unified Application for U.S. Renewable Energy Exports."

CREST Internet Information page "Interactive Multimedia Training and Education Systems [ftp.crest.org/pub/00CREST-info/interactive-multimedia](http://ftp.crest.org/pub/00CREST-info/interactive-multimedia), downloaded 3/5/97.

Delphos, William A., *Power Money: The International Business Executive's Guide to Government Resources* (Renewable Energy Edition) USECRE and NREL, 1994.

Description of Winrock programs, excerpting REPSO.

Draft Evaluation of the Renewable Energy Applications and Training Project (REAT), Executive Summary., May 17, 1993.

Eckhart, Mike, Solar Bank memo to Dan Jantzen, REPSO, "Fees and Expenses to Travel to India," January 16, 1996.

FCCC, Chapter 3: "Climate Change" pp. 30-39.

Fundacion Solar, "Rural Electrification Strategies," Presented to Hemispheric Energy Summit, Guatemala, November 1996.

\_\_\_\_\_, Commercial Business Framework for Addressing Energy Efficiency Needs in Guatemala, November 20, 1996, prepared by H. Mike Jones for Fundacion Solar and Winrock International.

\_\_\_\_\_, Biomass to Energy in Guatemala (A White Paper), prepared by: Ivan Azurdia-Bravo, Presented to USAID, NBIA, REIA and Winrock International, Guatemala, November 1995.

\_\_\_\_\_, "Renewable Energy Project Support Office (REPSO) Base Line Data", Guatemala, November 1996.

G/ENV/EET, Semi-Annual Review of the Environment Center's Renewable Energy Program, July 9, 1996.

\_\_\_\_\_, Semi-Annual Review of the Environment Center's Renewable Energy Program, January 14, 1997.

GEEP Helping Recuse the Risk of Global Warning, USAID.

Halpert, Julie Edelson, "Harnessing the Sun and Selling it Abroad," *NY Times*, June 5, 1996, p. D1.

IFREE, Pre-investment Funding Program Commitments Summary.

\_\_\_\_\_, pamphlet of program descriptions.

India REPSO, Program Budget, FY 97 (Oct. 1, 1996 - Sept. 30, 1997).

\_\_\_\_\_, Annual Work Plan 1996-1997.

\_\_\_\_\_, Program Budget, FY 96 (Oct. 1, 1995 - Sept. 30, 1996).

International Engineering Services Corporation, "REPSO Interim Evaluation: Final Report," December 1995.

Internet research results, Indonesia country information (CIA website).

\_\_\_\_\_, India country information, December 4, 1996.

\_\_\_\_\_, Guatemala country information, [www.odci.gov/cia/publications/95fact/gt.html](http://www.odci.gov/cia/publications/95fact/gt.html).

IREDA (Indian Renewable Energy Development Agency Limited), 9th Annual Report, 1995-96.

\_\_\_\_\_, "Guidelines for Loan Assistance" 20-page booklet, July 1996.

\_\_\_\_\_, "IREDA News", vol. 7, no. 3, 1996.

\_\_\_\_\_, Pamphlets:

1. High Power Returns through Cogeneration, Bagasse based, The Guidelines
2. Small Hydro Power Development Programme, Guidelines for Loan Assistance
3. Solar Photovoltaic Market Development Programme (World Bank Line of Credit), Guidelines for Loan Assistance
4. Wind Power Estates: A New World of Opportunities, Promotional Scheme for 'Joint Sector Companies' for Implementation of Wind Power Estates in Different States of India, The Guidelines
5. Everything You Always Wanted to Know About Solar Water Pumps, SPV, 1996-7
6. Solar Thermal Energy, Guidelines for Loan Assistance

Jantzen, Dan, REPSO, memo to Dick Goldman, USAID/Delhi, "Draft 'Success Story'," August 9, 1996.

Ministry of Non-conventional Energy Sources and Confederation of Indian Industry, brochure, "Opportunities and Guidelines for Foreign Investors in Non-conventional Energy Sector," February 1996.

\_\_\_\_\_, *Investors Meet on Renewable Energy Source*, brochure, 16th February 1996: Hotel Taj Coromandel Madras.

\_\_\_\_\_, No. 1/6/93-CPG, Circular. Subject: National Programme on Bagasse based Cogeneration - Modifications in Schemes.

\_\_\_\_\_, Annual Report, 1995-96.

\_\_\_\_\_, (Power Group) Circular, on "Interest subsidy scheme for Biomass Combustion based Power Projects," 20/10/95.

Naar, Jon, Report on India Trip, September 3-27, 1996.

NBIA Board of Directors Meeting Outline, November 14, 1995

- \_\_\_\_\_, International Program: 1997 Activities (brief list).
- O'Connor, Craig, Export-Import Bank of the United States, memo to C.S.Y.S. Rao, Titan Energy Services, "Financig for your purchase of U.S. equipment," July 12, 1996.
- Pangabeau, Dr. Lolo, CV and RENI brochure, faxed to Peter Williams, December 5, 1996
- Pentafour Solec Technology Limited, "Penta Surya Systems", pamphlet.
- Pumfrey, Ross, memo w/background info on Guatemala.
- Rao, C.S.Y.S., Titan Energy Systems, letter to Rahul Arora, REPSO, July 31, 1996.
- REETI Press Release, "REETI Conference Represents Unique International Project Development and Financing Opportunities," 11/18/96.
- \_\_\_\_\_, Booklet, "Building a Sustainable Global Energy System."
- \_\_\_\_\_, Program Summaries from REETI Web Site , downloaded 12/4/96.
- REFAD press release, "REFAD launches Rural Electrification Project in Namibia, April 1, 1996.
- REIA 97, pamphlet, "Hemispheric Conference and Exhibition on Renewable Energy," July 8-11, 1997.
- REPSO, "The REPSO Network: Renewable Energy Project Support Offices in Guatemala, Indonesia, the Philippines, India, and Brazil."
- SEIA press release, "Four New Automated Solar Manufacturing Plants to be Built in the U.S.A. in 1996," April 24, 1996.
- \_\_\_\_\_, Renewable Energy Publications Catalog, 1997.
- \_\_\_\_\_, Directory of the U.S. Photovoltaics Industry, March 1996.
- \_\_\_\_\_, Sun Flash, June-September and November/December 1996 issues.
- Solar Industry Journal, Second Quarter 1996, Vol. 7, Issue 2.

United Nations Development Programme Global Environment Facility: Project Proposal  
Review: Enabling Guatemala to Prepare its First National Communication in Response to its  
Commitments to the UNFCCC.

USAID/REPSO, "Renewable Energy Commercialization," pamphlet.

\_\_\_\_\_, RECOMM Project Grant No. 386-0015-G-00-5289-00.

RECOMM Project Description, October 1, 1995

Fixed Price Subcontract between TN Associates, New Delhi and REPSO, Winrock,  
International, May 6, 1996

Quarterly Report No. 1, October-December 1995

Quarterly Report No. 2, January-March 1996

Quarterly Report No. 3, April-June 1996

Quarterly Report No. 4, July-September 1996

Conditional Grant Agreement between REPSO and SELCO PV Electrification, Mangalore,  
effective November 14, 1996.

Subcontract between REPRO and Energy Economy & Environmental Consultants, Bangalore,  
effective April 10, 1996.

Subagreement between REPSO and INTESCO Bhoruka Limited, Bangalore, effective October 1,  
1996

Subagreement between REPSO and Tazcogen Development Inc., Moraga, California, effective,  
July 30, 1996.

MOU between REPSO and Thiru Arooran Sugars Limited, signed December 4 and 7, 1996.

USAID/REPSO Pamphlets describing RECOMM and REPSO

Winrock pamphlet, "Increasing Agricultural Productivity and Rural Employment While  
Protecting the Environment"

USAID, "Renewable Energy for Agriculture and Health," brochure, March 1994.

\_\_\_\_\_, pamphlet, "Renewable Energy for Agriculture and Health," March 1994.

USAID/USECRE, Cooperative Agreement DHR-5730-A-00-0086-00 Amendment 3, September 30, 1992.

\_\_\_\_\_, Cooperative Agreement DHR-5730-A-00-0086-00, September 6, 1990.

\_\_\_\_\_, Cooperative Agreement DHR-5730-A-00-0086-00, Modification No. 1, May 20, 1991.

\_\_\_\_\_, Agenda for December 18, 1996 meeting, "Activity Highlights."

\_\_\_\_\_, pamphlet, "Improving the Quality of Life with Renewable Energy," July 1992.

USAID, memo from Ross Pumfrey to Edi Setianto, USAID/Jakarta, "Proposal for Satellite Ground Station in Indonesia," October 19, 1992.

USAID/India Office of Environment Energy & Enterprise, brochure, overview of programs.

USECRE Quarterly Performance Report Number Three.

\_\_\_\_\_, Strategic Plan, 1994.

\_\_\_\_\_, general informational pamphlet, 1994.

\_\_\_\_\_, *On the Road* Vol. 1 Issues 8-10 and 12-13, 1996.

\_\_\_\_\_, The Renewable Energy Policy Manual, Volume II Developing Renewable Energy Policy for Remote and Rural Areas: Enabling Universal Electrification through Renewable Energy Generation, 12/13/96.

VITA 1995 Annual Report.

VITASat Program Description, glossy pamphlet.

\_\_\_\_\_, Global E-Mail System description, "Connecting People to Information for Development."

Winrock International, pamphlet, "Renewable Energy and the Environment."

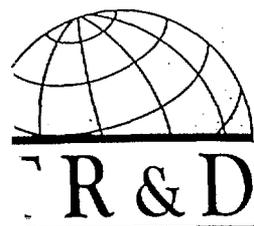
\_\_\_\_\_, REEP Publications List.

\_\_\_\_\_, Description of REEP Fund.

\_\_\_\_\_, pamphlet, "Windpower for Islands and Nongovernmental Development."

World Bank, Publications Update Vol. 13, Number 5 September/October 1996.

**5.6. Scope of Work**



Tropical Research  
& Development, Inc.

December 3, 1996

7001 S.W. 24th Avenue • Gainesville, Florida 32607 • USA  
Telephone (352) 331-1886 • FAX (352) 331-3284 • E-MAIL INFO@TRD.COM

Mr. Ross Pumfrey  
G/ENV/EET  
Rosslyn, VA

Dear Ross:

As you know Tropical Research and Development (TR&D) has been contracted to conduct an evaluation of the Renewable Energy Applications and Training (REAT) and the Biomass Energy and Systems (BEST) projects under work order 1 under AEP-0085-I-00-6016-00. During our initial discussions and in preparation for the evaluation, the following modifications, clarifications, and deletions to the evaluation Scope of Work were agreed to between yourself and the TR&D Evaluation Team on 11/20/96. Letters, numbers, and pages refer directly to the Scope of Work for the evaluation. In order to ensure confirmation of your understanding of these modifications, please sign and return this letter to TR&D and USAID's contracts office.

Page 6 B.1. Add "and outputs" after the words program description.

B.2.e. We are to only deal with this issue in a non-proactive, passive, way. Passive being defined to the effect that the evaluators shall not carry out a thorough investigation of these issues, but will rather address them only if they are brought up by the cooperators, USAID staff, or others during the course of normal data collection.

B.2.f.i. Evaluation is to be passive on this issue.

Page 7 B.2.f.ii Issue deleted.

B.2.f.iii Issue deleted.

B.2.g. G/ENV/EET will provide data on this issue.

B.3.a. Evaluation is to be passive on this issue.

B.3.c. G/ENV/EET will provide data on this issue.

Page 8 B.3.d. Issue deleted.

B.3.e. Delete the words "...the activities conducted by its sub-contractors, or..." and replace "those subcontractors" with "its subcontractors" at the end of the sentence. The evaluation is to be passive on this issue, depending on your providing information.

B.4.b. Issue deleted, information already requested under B.1.

Page 9

B.5.b. Issue deleted, redundant with B.2.g.

B.7. Issue to be limited to the countries of India, Indonesia, and the Philippines.

Page 10

B.9.a. Wording changed to "Are the two institutions' ECRE and Winrock, organizational charts clear and effective?"

B.9.b. Issue deleted.

B.9.c. Issue deleted.

B.9.d. Office of Procurement will provide information.

Thank you for your consideration in this matter.

Sincerely,



Donald R. Jackson  
Evaluation Team Leader

I understand and agree to these modifications to the evaluation Scope of Work.

---

Ross Pumphery  
G/ENV/EET

Date

ARTICLE I - TITLEProject                      Agreements Relevant to the Evaluation

REAT            DHR-5730-A-00-6002-00 (with US/ECRE)  
                  LAG-5730-A-00-3049-00 (with US/ECRE)  
                  LAG-5730-A-00-6002-00 (with US/ECRE)  
                  LAG-5730-A-00-6001-00 (with Winrock)

BEST            DHR-5737-A-00-9058-00 (with Winrock)

ARTICLE II - BACKGROUND

1.     The Renewable Energy Applications and Training (REAT) project began in 1985. The project has received a number of extensions and is currently scheduled to end on Sept. 30, 1997.

*Goal and Purpose:* The goal of this project is to assist selected developing countries in meeting their energy needs for development through expanded deployment of economically viable energy options. The purpose of the project is to bring about investment in renewable energy systems that contribute to the solution of development problems of concern to USAID. Such systems, and the policies necessary to support their implementation, have the potential to strengthen developing country institutions, involve U.S. industry and the indigenous private sector, and be self sustaining once donor assistance is withdrawn.

USAID's desired approach, wherever possible, is to develop a portfolio of "bankable" renewable projects, that is, projects which will attract financial commitments from businesses and multilateral lending agencies.

*Contractors and Cooperators:* G/ENV/EET has had more than two dozen cooperators and contractors (not counting subcontractors) under the REAT project since its inception in 1985, but in recent years the primary cooperators have been US/ECRE, Environmental Enterprises Assistance Fund (EEAF), and most recently Winrock International. EEAF has implemented only one category of activity and has received the smallest amount of total funding from USAID over these years, and will not be a subject of this evaluation.

US/ECRE has had three cooperative agreements with USAID under the REAT project, and the contractor shall evaluate performance under all three agreements.

The first agreement commenced on August 31, 1990 and expired on December 31, 1993 (No. DHR-5730-A-00-0086-00). The second US/ECRE cooperative agreement under the REAT project was No. LAG-5730-A-00-3049-00; this agreement commenced on September 28, 1993 and expired on October 31, 1995. US/ECRE currently has a third cooperative agreement funded under the REAT project, No. LAG-5730-A-00-6002-00; this agreement commenced on November 1, 1995, and expires on September 29, 1997. The first two of those agreements involved a significant number of subcontractors, one of which was Winrock International. The total amount of funding obligated to US/ECRE through December 1995 was \$16.307 million.

Beginning in late 1995, G/ENV/EET established a stand-alone cooperative agreement with Winrock International under the REAT project. This agreement is No. LAG-5730-A-00-6001-00; it commenced on November 6, 1995 and expires on November 5, 1997. The first increment of funding obligated in November 1995 was \$2.264 million. It should be noted that four former subcontractors to US/ECRE under the latter's first two cooperative agreements are now subcontractors to Winrock under this new agreement with Winrock: the International Fund for Renewable Energy and Energy Efficiency (IFREE), the Renewable Energy and Energy Efficiency Training Institute (REETI), the Center for Renewable Energy and Sustainable Technology (CREST), and Volunteers in Technical Assistance (VITA). Those four institutions no longer subcontract to US/ECRE under the latter's most recent cooperative agreement with USAID.

From 1989 until early in 1992, the Project Officer for the REAT project in G/ENV/EET was David Jhirad. In early 1992 that responsibility was passed to Ross Pumfrey.

2. The Biomass Energy Systems and Training (BEST) project began in 1989 and has received two extensions; it is currently scheduled to end on September 30, 1997.

**Goal and Purpose:** The goal of BEST is to increase energy production in USAID-assisted countries and improve natural resource management by using biomass wastes for power and liquid fuel production. The purpose of BEST activities is to reduce the technical, financial, economic, and institutional risks associated with biomass energy systems in order to encourage public and private sector interests to invest in commercially-proven energy conversion systems.

**Cooperator:** Winrock International has been the sole cooperator under the BEST project (cooperative agreement No. DHR-5737-A-00-9058-00).

This cooperative agreement commenced on August 31, 1989 and expires on September 30, 1997. The total amount of funding obligated to Winrock under the BEST project through December 1995 was \$13.508 million.

A significant number of the biomass-related activities funded under BEST have been closely associated with more comprehensive activities ("comprehensive" referring to the range of renewable energy categories in addition to biomass) funded under REAT (this phenomenon will be explained by the project officer in initial interviews).

From 1989 until early 1992 the Project Officer in G/ENV/EET for the BEST project was James Sullivan. In early 1992 that responsibility was passed to Ross Pumfrey.

G/ENV/EET wishes to evaluate US/ECRE and Winrock International in their execution of all cooperative agreements with G/ENV/EET under the REAT and BEST projects. The evaluation of Winrock under the REAT project should include activities implemented by Winrock when that organization was a sub-contractor to US/ECRE (see above).

The seven years of funding covered by this evaluation include a large number of individual activities and a significant number of sub-contractors. During the initial stages of the evaluation, the evaluation contractor shall discuss with the project officer which among those activities and sub-contractors should receive the greatest attention.

### ARTICLE III - OBJECTIVE

To provide a team that evaluates the administrative and programmatic effectiveness of the above-mentioned prime cooperators (US/ECRE and Winrock) in implementing the REAT project (US/ECRE and Winrock) and the BEST project (Winrock). The team shall make a recommendation to G/ENV/EET regarding the suitability of Winrock and US/ECRE to carry out additional activities related to commercialization of renewable energy technologies in USAID-assisted countries (these activities are as of yet undefined, but are expected to be similar to the activities conducted under the BEST and REAT projects). The evaluation shall focus on activities conducted with FY89-FY95 funds with respect to Winrock, and with FY90-95 funds with respect to US/ECRE. This encompasses four cooperative agreements under the REAT project and the sole cooperative agreement under the BEST project (see Article I).

ARTICLE IV - STATEMENT OF WORK

The purpose of the evaluation is to analyze the achievements, and shortcomings, and programmatic effectiveness, of the Cooperators relative to the program descriptions and workplans for the cooperative agreements specified above. The most important component of the evaluation is B.3<sup>V</sup> below.

are and B.4

A. Procedural components of the evaluation

1. Interviews with G/ENV/EET staff (primarily the Renewable Energy Team), Cooperators, and sub-contractors to those Cooperators;

2. Interviews with M/OP staff (primarily the procurement staff that backstops G/ENV/EET);

3. A review of the Cooperators' management system as they administer their program (e.g., the procurement system as described in 22 CFR 226 {OMB Circular A-110 was applicable for the early cooperative agreements});

- do you  
see 22 CFR 226  
?

4. An examination of project papers, agreements, workplans, reports, and publications;

5. Consultation with USAID personnel in selected Missions where the Cooperators have been active; and

6. Interviews with nationals of the host countries who have been assisted by, or counterparts to, the Cooperators.

7. In order to allow some geographic focus, travel by a member or members of the evaluation team to Guatemala, India, and Indonesia. The focus does not preclude some attention being paid to activities in other countries as may be further determined by the evaluator in consultation with the project officer, but consultation with persons in other countries shall be limited to long-distance communication unless additional travel within budget is approved by the Project Officer.

The Contractor shall conduct separate evaluations of US/ECRE and Winrock, although overlaps with respect to activities exist and can be acknowledged freely. A clear administrative overlap exists particularly with respect to the fact that for three years of funding under the REAT project Winrock was a sub-contractor to US/ECRE, but this should not present serious problems with respect to the evaluation.

B1-B2 - generally pass judgement

AEP-0085-I-00-6016-00

Task Order 1

Page 7 *passive*  
*f-o*

ii. Are the Cooperator's key personnel working on the activities of appropriate professional calibre and background? Are their individual responsibilities appropriate to their skills, and do they appear to be fulfilling their individual responsibilities effectively?

*passive*

iii. Were enough staff assigned to an activity to ensure its completion?

*passive*

g. USAID Missions must grant approval for Cooperator activities in-country. Did the Cooperator coordinate with the Project Officer in obtaining Mission approval for in-country activities prior to their commencement? Did this approval include appropriate clearance for travel? If Mission approval was not coordinated through the Project Officer, did the Cooperator seek Mission approval independently and subsequently provide evidence of Mission approval to the Project Officer and for the record? Did the Cooperator attempt to bill USAID for any work conducted in a non-USAID assisted country? (appear to be the answer is yes)

*RP - to provide examples problem cases.*

3. Reporting of progress and accomplishments.

a. Did the Cooperator provide the reports required in the cooperative agreements (e.g. quarterly reports, annual reports)? Did the Cooperator go beyond the legally required reporting to keep G/ENV/EET informed of progress? (probably bi-weekly)

*3 No*

*passive*

*meeting*

b. Were the reports informative and submitted on a timely basis?

*pass judgement*

c. In those cases in which the cooperator received funding from other sources, was the reporting of progress and accomplishments with respect to G/ENV/EET funding specifically made clear?

*↓  
ROSS will provide memo that record a problem.*

<sup>1</sup> Prior to the obligation of carryover FY 95 funds in late CY 95, each specific trip funded through cooperative agreements required country clearance from USAID Missions, and this approval was obtained through the project officer at G/ENV/EET. Beginning with obligations in late CY 95, such country clearance for individual trips was no longer required, although Mission approval was still required for any country-specific activity. An activity might or might not include one or more prospective trips, and the specifics of the latter no longer were required to be approved in detail.

delete = #D - p. 8.

5 - family accounts  
Do up. up. -> monitor appts w/ quality

Monitoring  
reporting

ii. Why or why not were the Cooperator's activities effective in achieving desired results? What are the relative strengths and weaknesses of the Cooperator or the Cooperator's planning or implementation process in this regard? Did the cooperator monitor the results of outputs and/or deliverables sufficiently to permit periodic judgement of effectiveness? Were problems identified and addressed?

iii. Were results that were attributable to funded activities reported consistently to USAID?

5. Did the Cooperator actively manage the activities performed by subcontractors? Specifically:

a. Did the Cooperator coordinate the work conducted by the subcontractors with the work being performed by the Cooperator or other subcontractors to ensure that work was not redundant and was coordinated as well as possible?

Scotty July  
Kun →  
Schwenker  
delete  
CB

b. Did the Cooperator ensure that subcontractor activities were consistent with the activities specified in the annual workplans, and any changes to workplans were made known to and approved by the Project Officer, and when appropriately significant also to the Office of Procurement?

related to 2.1  
B.2.2 -  
similar

c. Did the Cooperator provide sufficient oversight of subcontractor activities to ensure that they were being performed according to USAID regulations, and did the Cooperator adequately communicate USAID policies and regulations to subcontractors?

d. Did the Cooperator have and use a monitoring plan to measure efficiency, effectiveness, impact and sustainability of subcontractor activities? In the case of US/ECRE, what steps were taken to assure the quality of services provided by the Trade Associations?

6. Did the Cooperator disseminate the outcomes and "lessons learned" of their activities to the renewable energy community, both in the U.S. and in USAID-assisted countries, for maximum impact?

C

7. Has the Cooperator's program inspired Mission support, ranging from acknowledgement of success to additional funding?

D

8. Did the Cooperator leverage funding for program activities from additional sources besides USAID, such as multilateral development banks, foundations, other U.S. Government

C

see  
Indicia's  
Submission

agencies, renewable energy companies, etc., in order to enhance the program?

*ECRE-DOE*

9. Did the Cooperator maintain internal controls sufficient for effective management and administration?

[Note: This component of the evaluation is considered to be a program management and efficiency review and in no way constitutes a financial audit.]

The internal controls that affect the cooperative agreements should be reviewed to the extent that the OMB Circular A-133, OMB Circular A-128 or other recent audits have not sufficiently addressed the area. If significant weaknesses were identified in prior reviews, the Contractor should determine whether corrective action was taken. This review shall determine the adequacy of at least the following (but should not be limited to the following if deemed appropriate):

*in each case, 15*

- a. ~~Are the institution's organization chart, accounting manual, chart of accounts, and accounting staff's job descriptions and experience clear?~~ *RED prog. org. chart clear*
- b. ~~Do effective procedures exist to provide financial oversight of sub-recipients or subcontractors?~~
- c. ~~Is the separation of duties and responsibilities clear and effective (do adequate levels of approval exist)?~~ *implicit*

*and delegation effective.*

*Pen to follow up*

- d. Are required OMB audits conducted in a timely manner and submitted to the cognizant audit agency?
- e. Does a system exist that permits adequate tracking of USAID-funded labor expenses when the relevant personnel are also being funded by other USAID units or other federal agencies for similar activities?

10. Are changes needed in G/ENV/EET's management of the Cooperator's activities? Are existing communication/consultation channels between the Cooperator and G/ENV/EET adequate? What changes are recommended?

*disaggregates info. for USAID*

*Procurement  
communication  
collaboration*

*D  
Subset  
8  
A-3*

traveling to USAID Missions. In some Missions the Contractor will not be able to bring computers into the Mission's offices for security reasons.

ARTICLE XV - WORK WEEK: A five-day work week is authorized for work within the United States, however; a six-day work week for work in the field with no premium pay is authorized.

ARTICLE XVI - ORGANIZATIONAL CONFLICTS OF INTEREST/PROCUREMENT INTEGRITY:

A. Nothing in this delivery order or Basic Ordering Agreement is intended to create a situation in which the contractor, its employees or consultants not directly associated with performance of this delivery order or contract, or the personnel performing hereunder (hereinafter collectively referred to as "the Contractor") will have an organizational conflict of interest, i.e., where the Contractor is unable or potentially unable to render impartial assistance or advice to USAID, or the objectivity of the Contractor is or might be otherwise impaired, or the Contractor gains an unfair competitive advantage. This applies both to this delivery order or contract, as well as any acquisition (contracts) or assistance (grants and cooperative agreements) instruments to be awarded under the project or program being planned, designed, or developed hereunder.

B. Similarly, nothing in this delivery order or contract is intended to create a situation in which the Contractor serves as a Procurement Official (as defined in FAR 3.104-4[h] for any acquisition or assistance instruments to be awarded under the project or program being planned, designed, or developed hereunder; nor is the Contractor authorized to have access to proprietary or source selection information (as defined in FAR 3.104-3[j] and [k]; USAID [M/AAA/SER and GC] General Notice issued June 7, 1989 and effective July 16, 1989, subject: Improper Disclosure of Acquisition Information; and USAID [AA/M and GC] General Notice effective July 16, 1989; subject: Procurement Integrity-Source Selection Information) for any acquisition or assistance instruments to be awarded under the project or program being planned, designed, or developed hereunder.

C. Nevertheless, if either the Contracting Officer for this delivery order or contract, or the Contracting/Grant/Agreement Officer for any acquisition or assistance instruments to be awarded under the project or program being planned, designed, or developed hereunder, subsequently determines that organizational conflicts of interest exist, appropriate action, as described in FAR 9.5, may be taken to avoid, neutralize, or mitigate such organizational conflicts of interest.

## **5.7. Comments from Cooperators on Second Draft Evaluation Report**

The following comments were submitted by US/ECRE and Winrock. The evaluation team has inserted its responses to some of the comments in highlighted text.

### **COMMENTS TO DRAFT EVALUATION REPORT SUBMITTED BY JUDY SIEGEL ON 4/29/97 AND ANNOTATED BY EVALUATION TEAM**

(Evaluators' annotations are highlighted)

#### **SECTION 1: OVERVIEW**

We are pleased that the evaluation report acknowledges the significant progress achieved by US/ECRE in the areas of program management and implementation. We appreciate TR&D's recognition of the great strides that US/ECRE has made both in meeting USAID's program needs and in establishing and implementing administrative compliance systems required by USAID. A lot of time, effort, quality control, and overall blood sweat and tears has been put into improving these areas in order to ensure full compliance with USAID requirements and it is indeed rewarding for these to be acknowledged. In particular, we note your comments regarding the following:

A highly professional management team has been put in place (as cited on pages 14 and 30).

The potential conflict of interest questions arising in the unique context of industry consortia, which were identified as issues under the early agreement, have been addressed. Additionally, please note that a formal corporate policy drafted by counsel, has been adopted and is being enforced to ensure that no organizational conflicts of interest exist.

Enhanced program coordination and cooperation with USAID have occurred. This includes timely delivery of planning documents and reports.

Strong justification exists for USAID-US/ECRE collaboration in these Cooperative Agreements as a result of the complementary goals and objectives of the two organizations.

Improvements have occurred in tracking, monitoring and reporting on program results.

Improved USAID customer satisfaction has been experienced by both the program and procurement staffs.

In general, US/ECRE believes that the Cooperative Agreement format with USAID has been highly successful and beneficial to member trade associations, US industry, our host country counterparts, multilateral development banks and other financial institutions, and other federal agencies (i.e., the Department of Energy, the Department of Commerce, the Export-Import Bank of the US and the Environmental Protection Agency, among others). Through this joint program we are enhancing sustainable approaches to energy delivery in the developing world; have fostered strong partnerships with public, private and non-profit organizations in developing nations; have contributed to policy changes that are/will stimulate private sector investment in renewable energy technologies in at least 11 countries; have developed a base of projects estimated at over \$4 billion worldwide; have provided technical assistance and training to key end-users and institutions responsible for long-term maintenance and development of these technologies; and have assisted in developing innovative financing windows and mechanisms valued at over \$1.5 billion.

Nonetheless, although the joint USAID-US/ECRE partnership has been extremely beneficial, the road has not always been as smooth as we would have liked it to be. In this regard we share the sentiment of TR&D that there are a number of improvements that can be made to enhance cooperation, collaboration, efficiency and effectiveness in future USAID-US/ECRE Cooperative Agreements. These items are discussed in more detail below.

## **SECTION 2: IMPROVEMENTS FOR FUTURE COLLABORATION**

Throughout the findings and conclusions section of the evaluation report, a number of items are raised that point the way to more effective program implementation in the future. We want to comment on several of those that we believe are most critical to more effective program design, development and implementation, while furthering our mutual goals and objectives.

*(a) Establishing Future Cooperative Agreements.* The most important point to be raised under the contractual area is that an assistance instrument, the Cooperative Agreement, is the right type of vehicle for continued USAID-US/ECRE collaboration. The goals and objectives of the two organizations are complementary. Further, US/ECRE is the only organization of its kind that can provide USAID with the industry linkages needed, and in fact required by Congress, to ensure the development of sustainable programs in the global country marketplace.

A competitive contract is not the solution for US/ECRE-USAID cooperation. We are involved in a long-term partnership with USAID in this agreement that we believe is important and needs to be continued. Through the Cooperative Agreement process we lay out our proposed work program in our proposals and subsequent work plans and through a series of meetings, discussions and comments with USAID, come to mutual agreement on what will be done. USAID does not dictate the work to be done or the time frame, we do this as a team. US/ECRE does not view itself as a contractor and never has. We represent

industry interests and seek to do this jointly through our federal counterparts. US/ECRE's Board of Directors and the firms they represent would have great difficulty agreeing to a procurement arrangement whereby USAID, or any other federal agency calls the shots. That is not our goal in the arrangements with USAID and others, nor is it the goal of the agencies we work with. We are collaborators, not contractors. Pursuant to The Federal Grant and Cooperative Agreement Act and its implementing guidance, an assistance relationship, not a procurement/vendor relationship, is appropriate.

It is my belief that there is confusion going on here over the nature of the Cooperative Agreement and how it is managed. It is the management of the agreement that may be causing the problems, not the agreement itself. Improving program management style is an internal matter for USAID. The form of Agreement itself should not be changed, as this is exactly the arrangement US/ECRE should have with USAID.

The Indefinite Quantity Contract (IQC) approach being pursued by the Office of Environment, though useful for short-term, pre-identified activities, would not work in the case of US/ECRE, as we are a partner with USAID in identifying the work to be done, conducting the planning of the various activities, managing implementation and follow-on, and tracking/reporting on the results. The strength of the industry-USAID team in the Cooperative Agreement arrangement is that we have a long-term partnership that allows us to identify and develop sustainable markets and programs and establish the long-term presence that is key to the success of both our programs in the renewable energy field. We have all heard too often about the examples of the US Government or industry going into a country and getting everyone all charged up about renewables, only to find that there is no follow-through or commitment by the US after the trip. Through our relationship with USAID we have made a concerted effort to avoid this situation by targeting our markets very carefully; taking the time and effort to understand the market players, opportunities and barriers; and structuring and implementing programs that will lead to on-the-ground, replicable projects. This would not be possible in an IQC or other contractual arrangement.

We believe that the nature of the work is suited to a Cooperative Agreement, and we have proven that we can successfully undertake Cooperative Agreements with USAID and other cooperators such as DOE and DOC. We believe that the US/ECRE consortium of six trade associations is uniquely qualified to harness the capability of the U.S. renewables industry to undertake the work required of USAID in renewable energy. With some modifications, we believe that the level of "involvement" with USAID program staff does not have to be overly burdensome and the Agreement can run smoothly.C

*(b) Establish Streamlined Fixed-Obligation Grant/Cooperative Agreements and Subagreements.* Another point to address with the Cooperative Agreement is the type of agreement and subagreement to be provided -- cost reimbursable or fixed price. Clearly, TR&D is aware of the previous differences of opinion that existed between USAID and

US/ECRE with regard to these instruments. In USAID I, it was US/ECRE's understanding, backed by meetings and correspondence from USAID, that we were operating under a fixed obligation not a cost reimbursable agreement. We requested favorable consideration on this from USAID and were denied. The two subsequent Agreements have been explicitly cost reimbursable, although fixed obligation subagreements are allowed if all requirements are met.

From our perspective there is no doubt that the cost reimbursable agreements are far more costly in terms of financial and administrative overhead costs. We are able to administer our fixed obligation awards with USDOE with much less time and expense for the finance, contract, managerial and administration task. We have had to bring on more staff on the administrative side to deal with the requirements of the cost reimbursable Agreement, although they are not exorbitant as we believe, expressly implied at one point in the evaluation. Management tasks for the last two Agreements have ranged from 15-20% of the total budget, which we believe to be very reasonable given the size, complexity and requirements of this vehicle.

The fixed obligation grant agreement that we have established with DOE has been extremely successful and could serve as an excellent model for USAID. Given the push to reinvent government, and the interest in streamlining business processes, particularly for small businesses and non-profits such as US/ECRE, we would strongly request that USAID join other agencies, and consider this vehicle for subsequent Cooperative Agreements. We proposed the Fixed Obligation Grant mechanism for our activities with the industry trade associations for FY'96 and FY'97 (FY'95 and FY'96 funds respectively), and a number of USAID management officials accepted this approach enthusiastically in principle, but for reasons that are technical and should be easily surmountable with joint efforts, this did not occur. Given the nature of the work to be conducted that a set of two vehicles might also be appropriate -- one cost reimbursable for those activities that may not be as definitive, and one fixed price for activities/deliverables that can be identified and advance costed.

See Section 4.17 for our view of the procurement mechanisms. It is basically the same.

- 8 *Timely Work Plan Submissions/Approvals.* Concerning the work plans, the USAID Program Officer, USAID Agreement Officer and US/ECRE management take these very seriously and we put a lot of time and effort into their development. As noted in the evaluation, these have in the past, taken a long time for approval, and streamlining the process is desirable. Further, although we have done much better at getting the work plans in by the date required in the Agreement (January 10), this date does not make much sense. By this time we are already one-quarter through the Agreement, and by the time it is finally approved we will no doubt be through the second quarter and well into the third quarter. This is not due to a lack of interest on any one's part, it's just the way it has happened to date. Future Cooperative Agreements should really require the work plan to be completed within 30 days of the award

date for year 1 and one-year later from this date for subsequent years. Further, Program Officer approval should also be within 30 days of the receipt of the work plan. I realize that this is an ambitious schedule for everyone but it is more consistent with the period of performance, reduces operating risk to the Cooperators who are working without an approved work plan, and should reduce the management costs of having to go through several iterations of work plan reviews, correspondence, etc. We agree that the plans should be approved sooner. Our suggestion would be that the work plans be submitted 4 to 6 months **before** the expiration of the current plan so that a smooth transition can occur on day one.

*(d) Indicator-of- Success Reporting.* Another area that needs to be routinized is the "indicator of success reporting." As TR&D has properly noted, this area was not explicitly included in the Agreement, and life would have been much easier if it had been. Over the past 18 months we have spent untold hours working with USAID on trying to determine what the indicators should be and how they wanted them reported. We have done this in good faith despite the fact that the Agreement did not legally require it. If this had been laid out up front in the Agreement, we would track information according to the desired indicators, and report on the progress in the quarterly, annual and semi-annual reports. This would be much more routine and cost-effective. As it is now, we are fully in agreement with USAID on the need for reporting, and have tried to be responsive to their needs as they are working through the "indicator of success development process." However, putting the requirements up-front in the agreement is a much better way to go and would save everyone involved a lot of time and resource utilization.

*(e) Project Management System.* Establishing a project management system that USAID and the Cooperators can use jointly sounds good, but experience indicates this could become a very time consuming and costly process. Often, the more information USAID/ENV gets, the more questions it raises, the more iterations on this information are required, and in the end, the system you have developed to facilitate the process becomes an end in-and-of-itself. This can be an invitation to micro management that goes beyond the level of "substantial involvement" permitted by USAID rules. This need not be an onerous task. We see it as a simple way of maintaining the project status so that it is easy to understand and assessable to all participants. It need not require a lot of USAID involvement and approvals. It is primarily an information system.

*(f) Linkages to the USAID Missions.* US/ECRE has attempted to work with the missions and has had some limited success, but the inability of the missions to buy-into the Cooperative Agreement has restricted our abilities to secure funding. If the buy-in situation could be resolved, it would be easier for the Cooperators to more effectively work with the missions. Although TR&D recommends competition to allow mission buy-ins this could also be done on a non-competitive basis, for example through administrative buy-ins or through a companion ordering agreement such as has been done in the past by USAID for Collaborative Research Support Programs.

### SECTION 3: ITEMS OF CLARIFICATION TO THE TR&D EVALUATION

#### A. Key Items of Clarification

There are two major points raised in the evaluation that we believe need to be clarified. These are discussed below.

##### 3.2.6/3.2.9 Management/Tracking of Expenses

Statements made regarding US/ECRE's accounting system (Section 3.2.6 and 3.2.9) are unduly questioning. We take our financial management information system very seriously. The US/ECRE accounting system, MAS-90, is a powerful and sophisticated computer program that is used to track contract costs and expenses. MAS-90 can provide detailed breakouts of all contract costs and expenses including direct, indirect and travel expenses. Financial reports are developed based on time sheets submitted by staff twice monthly.

Over the last year we have been audited twice by the Defense Contract Audit Agency (DCAA) at the request of USAID in order to finalize aspects of the Cooperative Agreement. These audits involved a financial capabilities review and an assessment of our indirect cost rates. On both occasions they have examined our accounting system and found it acceptable. Further, in response to the item raised on page 32 regarding "tracking of expenses by funding source", the audits also addressed this issue. Our system was found to be "capable of accumulating and segregating costs on government contracts and grants", and thus we can and do track expenses by funding source. Each contract and subaward is assigned a funding source, i.e, USAID, DOE Golden, DOE-NREL, Commerce, etc. The US/ECRE accounting system further segregates and accumulates costs for each of the major tasks or activities in each instrument or subinstrument according to the budget for such agreement. The US/ECRE system fully complies with the requirements of OMB Circulars A-110 (including the common rules of USAID and DOE) and A-122. Independent audits of US/ECRE's operations from 1994 through 1996 are now being completed according to the requirements of OMB Circular A-133. Our external auditors (like DCAA) have found no serious problems with our financial and accounting systems; we expect this to be reported in the final audit reports to be issued over the next few months.

*Requested action: Modify or eliminate the statements in the evaluation indicating questions over our accounting system, to more accurately reflect DCAA statements and US/ECRE's accomplishments in this area.*

Our interview notes show that in December, Judy Siegel stated that US/ECRE had not been audited by DCAA since 1993. Never the less, our report does make it clear that we believe that US/ECRE now has an acceptable accounting system. One of that questions that was posed to us by USAID staff, however, was whether or not the accounting system and practices in use today were able to properly allocate the cost of a multi sponsored project involving travel to USAID and non USAID countries. Our report states were that we could not verify this capability, but we encouraged USUSAID to accept some ambiguity in exchange for the benefits from cost sharing work with another agency. In fact, we were quite sure that the accounting system would not have been able the allocate the costs properly because the work was carried out under a fixed price subcontract (AWEA). Again, our point was not that the accounting practices are inadequate. It was that at some level of detail, tracking costs passes the point of diminishing returns.

We reviewed the sections in question to try to make our finding clearer.

### 3.2.6. Management

Currently, US/ECRE has 20 full-time staff members and of these 6 are fully dedicated to contract management, finance and administration (of these six, three do not charge directly to the USAID management task). Of the remaining 14 individuals, five have shared management and programmatic responsibilities, eight are trade industry specialists, and one is on-loan to the World Bank. At the time of the initial evaluation we did have 25 staff members, primarily administrative and programmatic; only 1-2 of the extra 5 positions will be filled in the future (bringing the staff level to a maximum of 22), which demonstrates our dedication to streamlining staff levels.

While duly noting that the underlying reason is to ensure full compliance with the extensive requirements of USAID cost-reimbursable awards, the TR&D evaluation nevertheless indicates that US/ECRE staff is heavy on the management side. **However, the evaluation does not take into account the fact that several of the staff members who work in management, also fulfill program functions (Siegel, McNulty, Gore, Lambrides and Braithwaite).** The report consequentially substantially overstates the management staff/time dedicated to this effort. This is not to say that substantial time is not put into the management of the Cooperative Agreement; it is. If USAID desires a cost-reimbursable agreement, there are going to be associated costs and there is not much more we can do (beyond the recent staff cuts) and still be in compliance with Agreement requirements.

We believe it would be more fair to calculate historically how much we have actually charged USAID for management and administration relative to programmatic activities. The most accurate means to calculate the percentage of time we spend on management activities would be to divide the charges for the management tasks by the charges to programmatic activities. In that way it will be apparent that US/ECRE charges to USAID for management

125

and administration do not approach 59% as identified in the TR&D evaluation. By our calculations, the percentage of costs for management is closer to the 15% we are running in our current Agreement. U.S. government agencies and multilateral development banks have traditionally been quite comfortable with such costs in this range. We believe this is very fair, if not low for such an Agreement. In fact, with all the overtime we spend on this Agreement, we are doing much more that we do not charge USAID for. Thus, it seems the focus should be on what we are in fact charging USAID for the services we perform.

Our statements were based on information obtained from US/ECRE managers. The estimate of management burden came from the Organization Chart dated 3/1/97 which shows 24 paid full time staff (plus two supported by the Labs) and indicates that 10 are assigned to "financial/contract/administrative support." Calculation of the fraction of effort devoted to administration, however, was incorrect. It should have been 41 percent rather than 59 percent. Even this is clearly excessive since US/ECRE no longer manages any substantial amount of contract work. Obviously, we did not really believe that 10 people were engaged in purely administrative work, but that is exactly what the organization chart states. This is another example of US/ECRE (Winrock does it as well) creating problems for themselves by preparing and submitting incomplete or inaccurate documents. This is one of the reasons that USAID staff are so distrustful.

In this case, we were not looking for an excuse to fault US/ECRE. We were trying to point out the cost to the taxpayer of M/OP's insistence on a cost reimbursable agreement. However, US/ECRE's organization chart implies a level of administrative effort that is clearly beyond reason even for the most demanding of procurement procedures. We accept that the chart does not accurately reflect the current allocation of programmatic and administrative effort and cost, but we urge US/ECRE to be more careful about perception conveyed by their documents. We added a sentence or two to state that the number of real FTE engaged in administration is probably less than 10, but we still have no evidence of the actual cost.

*Requested action: Revise this section to adjust for US/ECRE's actual expenditures on management; recognize that many staff perform both managerial and program work.*

## **B. Other Points Requiring Clarification and Considered Action**

Provided below are more detailed comments on specific items raised in the TR&D evaluation which we believe require reconsideration.

### 2.1.2 The REAT Project

Clarification on descriptions of subcooperators: CREST was a project of the Solar Energy Research & Education Foundation (SEREF), an educational foundation exempt from federal taxation under IRC Section 501 (c)(3). The San Francisco office was part of the CREST project and was staffed by CREST consultants and staff. IFREE was also funded by the U.S. Department of Energy. Both CREST and IFREE were officially adopted as formal projects by CORECT, the federal interagency board that coordinates US government activities regarding international renewable energy activities. The descriptions of the CREST and IFREE projects came directly from their own web sites. The description of IFREE clearly states that it is funded by DOE.

### 3.1.1 General Perceptions of US/ECRE-AID Relationship

This section reports without attribution, the perception that US/ECRE operates in a “perhaps cavalier manner.” We feel strongly that this perception is inaccurate. On the contrary, we work very hard to meet the needs of USAID and even go above and beyond that required of us as is cited in the evaluation (e.g., preparing indicator of success measures though not specifically required in Cooperative Agreement). We are confident USAID would agree with this statement. We changed the word “allow” to “allowed” to avoid the impression that this is a current attitude, and softened word “cavalier” to “independent.”

This section begins to enter the “Sklar Zone” which although a good read seems out-of-context in a program evaluation of this type. Again, this section appears to report only hearsay and perceptions, rather than conclusions based on analysis of the facts. It is not appropriate, in our view, to call these statements “findings”. More important, the focus on Scott Sklar overlooks the real reasons that the relationship was developed and has grown between US/ECRE and USAID -- we represent a unique constituency, over 1500 companies comprising the US industry, and this group is a useful, indeed a necessary partner for USAID to achieve its sustainable development objectives. Two comments: 1) our finding were based on personal knowledge and interviews with AID, DOE, industry representative, and former US/ECRE staff. The relationship was a real concern, and we don't think our finding in this area are anymore hearsay than our other finding that were obtained in pretty much the same way. 2) I think we pointed out the mutual interests that underlie the cooperative agreement. That was the main reason for writing this section. There are those who believe that Sklar was the only reason for the agreement.

### 3.1.2 Sklar Influence on the Program

To the extent that a perception of “independence” existed, it may well have arisen from US/ECRE’s understanding that the first Cooperative Agreement between US/ECRE and USAID was a fixed price agreement. A fixed price agreement by its nature would be subject to substantially less management oversight by USAID than a cost reimbursable agreement.

In any event, this issue has been resolved and US/ECRE is operating under cost reimbursable mechanisms.

### 3.1.3 Current US/ECRE -USAID Relationships

Brining the management and financial systems up to compliance has taken a long time but we are very pleased it is done and operational. It was important that it be done right and that all the data entered was accurate; this took time.

To clarify the Scott Sklar job description: In 1993, Scott had only one full-time job, Executive Director of the Solar Energy Industries Association (SEIA), which did include some lobbying (not covered on any federal contract; this was paid from industry contributions). Sklar was selected by the US/ECRE Board to serve as Executive Director during the period of the first Cooperative Agreement with USAID, and was reimbursed for his time. During this period, US/ECRE had no full-time staff and all work was contracted out on the basis of fixed-price, deliverables.

We certainly did not mean to suggest that Scott was getting three paychecks. We simply ment that he took on a great deal of responsibility and was spread pretty thin. We have changed Scott's title in the text to Executive Director.

### 3.2.2 Planning and Annual Work Plans

During the first Cooperative Agreement, US/ECRE submitted a comprehensive proposal package, which included brief task descriptions and budgets. Although these were not formal work plans, they fully served the purpose of a work plan between US/ECRE and USAID. These documents were developed by US/ECRE in close collaboration with USAID and the subcooperators (US/ECRE member trade associations, affiliate organizations, Winrock, VITA, etc.). The proposals were not handled as a one man show on the part of Scott Sklar. Also, although there were problems associated with the CREST building, it is inaccurate, in our view, to refer to it as a fiasco. In brief, the project was more costly than anticipated, and its principal sponsors (especially DOE) were not in a position to continue their funding.

The word "fiasco" does not appear in the April 9 draft delivered to US/ECRE, although it was in some earlier ones.

As indicated in the evaluation, work plans are now routinely prepared on an annual basis and were done as required in Agreements 2 and 3.

### 3.2.3 The Approval Process

US/ECRE takes the work plans very seriously and puts a tremendous amount of time and effort into their preparation. We have also tried very diligently under the third Cooperative Agreement to get them in on schedule.

This comment also appears to be related to an earlier draft. We deleted the words "not seriously" from the April 9 draft.

### 3.2.4 Reporting of Progress and Accomplishments

Whether or not there were formal reporting requirements in our USAID agreements (as in Cooperative Agreement 2) we have done a tremendous amount of reporting throughout all three Cooperative Agreements. These include oral and written management reports (weekly, biweekly, quarterly, annually) as well as numerous technical, market and research reports. The Program Manager is given copies of all the written reports; under the first two Cooperative Agreements he actually formally approved them. OP is given copies of the management reports. More elaborate reporting is not necessary for USAID to manage the agreement effectively. No one is suggesting more "elaborate" reporting requirements. Our report says "more appropriate" reporting and the recommendations make it clear that this means less elaborate and more useful.

#### 3.2.4.2 Quarterly and Annual Reports

US/ECRE did not submit Quarterly Reports during Cooperative Agreement 2 because we met weekly with the USAID Project Manager and it was our understanding at the time that these meetings supplanted the need for quarterly reports. We now understand that this is not the case. Quarterly Reports were submitted for the Second Agreement (although late). We now provide quarterly reports as required, in the correct format, approximately 30 days after the end of the reporting period. This problem has, therefore, been addressed and successfully resolved.

Please adjust table 3, reports are due 30 days after end of quarter. We made the correction.

Clarification to Table 1. The Year 1 work plan for LAG-5730-A-00-3049 was first submitted in December 1993; the final work plan was submitted/approved on April 8, 1994. LAG-5730-A-00-6002 Year 2 submitted in January 1997 as required. Thank you for the dates. We have made the corrections in the table and have modified some of the text which suggested that the delays were even longer than they actually were.

#### 3.2.4.4 Other Documents

- C The comment on putting our information out on the web is a good one and we are increasingly trying to do more of this. Currently, US/ECRE has web sites not only for our own programs but also at a subprogram level for the Renewable Energy in the Americas (REIA) Initiative and the Asia Pacific Initiative (API). Additionally, each of our member trade associations also has its own web pages. In addition to updating these pages, we are looking into linking them with each other. Concerning translation of our publication, we do it as funding is available and the need exists. For publications geared to help industry identify overseas opportunities, these are clearly not translated. In Asia, since the bulk of the people we deal with speak English we do not see the need for translation here; and if we did translate, into what language, the costs would be prohibitive. In Latin America/Caribbean, where we do a lot of work, translation to Spanish and/or Portuguese is useful. Currently, we are in the process of developing a series of solar application brochures that will be translated.

#### 3.2.6 Management

We wanted to address several items in this section.

*M/OP Knowledge of US/ECRE Staffing.* M/OP did know that US/ECRE was operated as a consortium with little centralized staffing, which made US/ECRE one of the lowest overhead

cooperators with USAID. This was very apparent from the budgets we submitted and the personal discussions we had. The point is that M/OP did not behave as though they recognized that US/ECRE was unable to manage a cost reimbursible agreement. If they new it, they should have either changed the agreement or seen to it that the capablility was developed in less than four or five years.

*CREST Building.* In regard to the CREST, three agencies were to have had a cost-shared investment in this project for a minimum of three years. Three products were involved: a multimedia education center (CREST Building), a world-class web site (Solstice), and a host of multimedia CD-ROMS.

Two of the three CREST products were successfully carried out: Solstice is now in the top 5 percent of the world's web sites receiving over 800,000 inquiries per month and the CD-ROMS produced by CREST have won several awards. Of this, USAID should be very pleased. The only reason that the CREST Building was let go, even though the US industry has put in several thousands of dollars for renovation and equipment, was that the participating federal agencies other than USAID did not meet their commitments for building support. Concerning the item you raised regarding the IG investigation and the CREST staff, Scott Sklar handled the building arrangements while the staff handled the program side of Solstice and the CD-Roms. No staff labor was supported under the CREST Building portion of the Agreement. Thus, they did not necessarily have any reason to know about the CREST building status. We say nice things about CREST elsewhere in the report. This section was included to point out a management communications breakdown that USAID took very seriously. We were supprized that people working in other CREST and SERIF programs did not know about the IG investigation because word of such investigations usually spreads like wildfire.

*Siegel Hiring.* It was the US/ECRE Board of Directors that hired Judy Siegel. Changed text.

*Management Systems.* See Section 3.2.6 above for detailed comment. In general however our systems meet DCAA requirements and we can and do separate out our expenses by contract.

*US/ECRE Staffing.* We do not agree that US/ECRE staffing levels and "expensive and possibly burdensome." Our labor rates are reasonable and our G&A and fringe rates are relatively low. See earlier section 3.2.2 on current staffing and their make-up, and 3.1.3 for an explanation as to why Program Management costs are higher than expected. Also, as evidenced by the discussion of 3.2.6. above under Key Items of Clarification, US/ECRE has cut-down its staff levels in 1997 from 25 staff to maximum of 22. Already addressed, but we think the statement should stand. We are not faulting US/ECRE so much as the procurement system that requires them to develop expensive management systems.

### 3.2.7 Information Dissemination

See item 3.2.4.4 above.

### 3.2.8 Leveraging

Although we have had substantial leveraging of our programs, from other government agencies as well as the industry itself (any direct funding that we provide is matched by industry, generally in labor and other in-kind support), we have had only limited success with the missions. This is due primarily to the buy-in restrictions you cite. We understand, however, that there are USAID agreement mechanisms which can operate to attract mission funds to a centrally-funded cooperative agreement, and would be interested in investigating those mechanisms with USAID.

The \$28 million figure you noted was the figure cited during the SAR meeting and includes figures for both US/ECRE and Winrock. The bulk of these mission-supported funds were in fact Winrock's. Agree, but see no reason to change statements.

### 3.2.9 Tracking of Expenses by Funding Source

See detailed response above in Section 3 of this document - Key Items of Clarification. In summary, US/ECRE does meet DCAA requirements for its finance systems and can/does track all expenditures by funding source. See previous responses.

### 3.3.1. Type of Agreement

See details above in Section 1 of this document. In summary, US/ECRE believes strongly that the Cooperative Agreement is the proper mechanism for conducting the renewable energy program. We truly work collaboratively, share the same goals and objectives, and desire the same results. This has been a strong government-industry partnership and it should be continued as a partnership.

I would like the evaluators and USAID to consider this item very seriously. This Cooperative Agreement, for a variety of reasons, has been very heavily managed by the Program Manager -- as is indicated in the evaluation. However, although there has been a lot of interaction with the Program Office, it boils down more to information reporting than program direction. The work plan proposed by US/ECRE has generally remained intact, with some give and take with USAID, and there has been no attempt to try to redirect us or impose something on us that we do not want to do. A typical contractual arrangement would be wholly different and would not meet with either USAID's or US/ECRE's needs in the renewable energy area. With industry involvement we are collaborators with a common mission and common set of activities leading to on the ground results. This would clearly not be the case with a contract.

### 3.3.2 Allocation of Project Resources

US/ECRE's activities in key USAID assisted countries overseas has been substantial in the last two Agreements in particular. Under Cooperative Agreement 2, we launched the Renewable Energy in the Americas Initiative (REIA) that has yielded tremendous results: a project portfolio of over 150 projects; in-country networks/contacts; policy reform in place/underway at least 5 countries; MDB projects in process in at least 5 countries valued at more than \$500 million, and much more. Twenty countries have now signed onto a REIA Declaration demonstrating their commitment to renewable energy technologies, and a day-to-day REIA Technical Secretariat has been established, currently operating out of US/ECRE. The REIA Conference held in Puerto Rico in June 1994 was truly a watershed, and many decisionmakers throughout Latin America and the financial community will tell you that REIA was the launching pad for their support of renewables. USAID was instrumental in its support of this effort.

Based upon this success, we are conducting a similar regional program in Asia and the Pacific (API). We are currently involved in various stages of market conditioning with our partners in India, Indonesia and the Philippines. In Southern Africa, we are setting up revolving funds through local lending institutions to provide end-users with access to affordable credit.

Throughout these activities we are working, and will continue to work, very closely with our developing country counterparts. We bring U.S. companies to meet with them in-country, and conversely, host them on trips to the US to meet our firms, see projects on U.S. soil, and meet with members of the international financial community who can help to bring projects to closure. A large part of the work is done in-country, but a lot is also done here in the U.S. Regardless of where the work is occurring, the results are showing and that should be what is measured.

We appreciate your acknowledgment that the US/ECRE salaries are not excessive.

~~We appreciate the listing of overseas activities, but this section was about how the money was spent, and no further light has been shed. We agree that the measure of success is what is accomplished, but knowing how the money was spent would help focus future work.~~

#### 4.1. Planning in US/ECRE

See comments on NMS above (Section 2(e)). In summary, it is a good idea if it doesn't just become another drain for time. We have established a project tracking data base and can expand this to report on other indicators, as appropriate.

#### 4.4 Lack of Investment Capital

We agree that financing sources ought to be expanded. As such we have been working with commercial banks, insurance companies and some of the innovative public-private sector funds that are emerging on the market to broaden the financing pool. We plan to continue these activities under the current and subsequent Agreements. We are pleased to coordinate with Winrock on these activities as well as all others. **Good**

#### 4.6 Benefits to U.S. Industry - US/ECRE

We agree with the need to educate U.S. industry and utilize local partners.. In this year we began the development of market factsheets for key countries and are putting these in simple formats that can be easily updated. These will be made available on the web. Also, we have done a number of market and sector specific studies that provide data to U.S. firms. Concerning local partners, that is one of the primary foci of our trade missions and reverse trade missions. Also, we have established in-country counterparts in several countries (Brazil, Caribbean, Indonesia, Peru, and Bolivia), formed alliances with industry trade groups in several countries (Brazil, Indonesia, India and Philippines), and strengthened our ties with foreign commercial attaches in key countries to enhance U.S. industry access to key partners overseas. All due dates have been satisfied by US/ECRE. **Good**

#### 4.8 Information Dissemination

US/ECRE is now more aware than we were in the past of USAID's need for distribution plans. We have made improvements here - as evidenced by the plan submitted to the USAID Program Office on the RE/Environmental brochure, and will continue to strengthen this area in the future. **Good**

#### 4.9 Mission Buy-Ins

There are ways that mission buy-ins can occur without competitive solicitations. For example, there can be administrative buy-ins, or orders under a companion ordering agreement.

#### 4.12 Management Burden

US/ECRE has scaled back its staff support. However, with the burdens placed upon us by USAID, it is difficult for us to cutback any further. Cost reimbursable agreements are costly to manage and administer, and the basic compliance requirements of OMB Circulars A-110 and, particularly, A-122, still apply.

The fixed-obligation grant vehicle could help reduce management costs significantly. If this mechanism now utilized by the Department of Energy to fund US/ECRE were adopted by

USAID, the management staffing requirements regarding oversight, contracting and financial management could be cut significantly. As the evaluation report recognizes, the existing USAID requirements force top heavy management which takes away from the programs and increases overhead. See previous comments.

#### 4.13 Sustainability

The link to U.S. industry is critical to achieving many of our results, and US/ECRE has given USAID a lot for its money. In terms of sustainability, US/ECRE is looking at a number of sources for funding outside the strict federal domain to expand and diversify the revenue base for our programs.

### SECTION 4: CONCLUDING REMARKS

In closing, I would like to reiterate that the Cooperative Agreement has been mutually beneficial to USAID, sustainable development, US/ECRE and its member associations, and U.S. industry. It is our strong desire that this mechanism continue in the future, with prudent adjustments based on experience and on the useful findings of the evaluation.

**Comments on the April 9, 1997 draft of the *Final Evaluation of the Renewable Energy Applications and Training Project (REAT) and the Biomass Energy Systems and Training Project (BEST)*. Responses by the evaluation team in highlighted text.**

**Prepared by Winrock International  
April 24, 1997**

---

We will divide our comments on the draft into five categories:

6. Accomplishments and Time Frame
7. Changing Goalposts
8. Succinct Recommendations
9. Clarification of Major Issues
10. Factual Corrections

#### Accomplishments and Time Frame

135

To begin, we would like to summarize the funding for the three sets of activities managed by Winrock International under the BEST and the REAT Projects. (Detailed corrections to numbers used in the draft with page references are presented below.) Because the BEST Project began under Winrock management in 1989, its results and accomplishments are easiest to identify and measure. Expenditures under the BEST Project from 1989 until the end of calendar year 1994 equal \$9,816,167 while BEST expenditures from the beginning of 1995 until the end of 1996 total \$2,568,624.

Results and accomplishments from activities carried out as a subcontractor to U.S. ECRE from 1992-1996 are also visible. Total funds received by Winrock from U.S. ECRE during this period equal \$1,287,245. It is early to assess results and accomplishments for activities carried out under the NGO/REI cooperative agreement that began in November 1995, for which \$1,215,353 had been spent through December 1996.

*(The financial data SS submitted on 2/10/97 showed \$2,264,000 spending for REI/NGO from 11/6/95 through 11/5/96.) This section has been clarified based on additional data provided here.*

Winrock International believes the Winrock activities being reviewed achieved major accomplishments during the time period from 1989 until 1996 and that there is solid evidence of these accomplishments. While recognizing the evaluation team had limited time and manpower, Winrock believes the emphasis the evaluation places on management issues during the past two years minimizes what we feel are substantial visible accomplishments clearly linked to efforts funded under the BEST Project and to a lesser extent under the subagreements with U.S. ECRE.

*The Scope of Work for the evaluation also placed heavy emphasis on management issues.*

Although the formal reporting required by USAID under the BEST cooperative agreement prior to 1995 does not provide a clear written record of what was accomplished, there are many technical reports, conference proceedings, formal presentations, weekly reports, activity summaries, and success stories that do provide a clear written record.

The evaluation report frequently discusses the evidence of the many results achieved but it does not conclude they represent significant accomplishments. For example, more than 300 MW of biomass-fueled power capacity has been installed and is operating. Prior to this project, there was no power officially being sold to the grid by sugar factories outside of the United States. The 300 MWs of private biomass-fueled power capacity currently operating and selling power to the grid represents hundreds of millions of dollars of investment leveraged by less than 10 million dollars of investment by USAID. *See page 40 re 308 MW, \$360,000,000, etc.*

Page 24 states “The projects have begun to track the impact of their efforts...” implying that decisions about what to measure have only recently been made. The “Conclusion” section on page 27 states “... it is hard to attribute success to any one activity. A lack of consistent performance indicators further increases the problem.” From our perspective, the MW target was set out in the original logframe of the BEST Project and we have tracked MWs as a primary indicator of success since the inception of the BEST project. The section referred to deals with REAT and US/ECRE not BEST. Winrock results are discussed on page 40. The early BEST results with the sugar industry are better documented.

When discussing the MWs of installed biomass capacity that has been achieved, the report usually says or implies it is difficult to link activities under the BEST and REAT projects to results. On page 24, the report reads “It is even more difficult to attribute renewable energy developments or successes to specific REAT/BEST project activities.” It also says, “the quantitative measures of success ..... can be regarded as the most optimistic interpretation of the project’s results.” In the section discussing how hard it is to move renewable energy projects from inception to commissioning on page 25, the draft reads “At this time, it appears that the project has been only minimally successful ...”.

*It is hard* and Winrock feels proud of the accomplishment. The section on page 23 was included to put the accomplishments in the context of a difficult period. We agree it has been hard and are not belittling the accomplishments.

Winrock also feels that there is a clear written record linking project activities with results. Earlier USAID support for sugarcane cogeneration helped lay the groundwork for the results achieved under the BEST Project but activities carried out by the BEST Project brought the first success. For several of the biomass cogeneration plants (India, Costa Rica, Thailand), Winrock, under the BEST Project, funded the technical studies at the sugar factories where the first plants were eventually built. In Costa Rica, Winrock ran several study tours and workshops that led to the drafting of the private power regulations. In Guatemala, Winrock worked with the sugar industry and the utility on pricing issues that led to the signing of the agreements to purchase power. In India, the Winrock study contains a draft power purchase agreement prepared by the BEST-funded team that became the model for all future power purchase agreements with Indian biomass cogenerators. If a clear written record exists, why was the team not provided with it?

The statement at the top of page 40 concerning lack of reporting under the BEST project is only true when narrowly applied to formal reporting. Although formal reporting was not required, there was a large quantity of high quality technical reports prepared during the first several years of the BEST Project. High quality reports noted.

On page 25, the report questions the link between the preliminary identification stage of the \$1.5 billion worth of renewable energy projects identified and ultimate implementation. We maintain that the results with the 300+ MWs of biomass cogeneration installed since the beginning of the

project fall into a different category and can be tracked from conception to commissioning. Page 25 refers \$1.5 billion that US/ECRE says is in the project pipeline - not to accomplishments like the sugar mills.

On page 43, the report says "Winrock and the REPSOs have had little success to date in convincing public, private, and multilateral banks of the potential investments in renewable energy projects." The report correctly points out the difficulty of obtaining private financing for new and innovative technology. The 300+ MW of installed capacity is clear evidence that substantial private and public capital has been mobilized. Revision addresses mobilization of capital.

The biggest challenge in making private financing possible was establishing the legitimacy of the technology and the approach. Many technical, economic, and financial analyses were carried out by world-recognized sugar industry experts in partnership with private sugar factories with funding from the BEST Project. The 1991 international conference sponsored by the BEST Project brought all of this information together in one place and kicked off private investment. A representative from virtually every mill that later installed a biomass cogeneration system attended this conference. There is a published proceedings and participant list available. Text revised.

Most of the financing for the 300+ MW of new power capacity currently operating came from private sources. There are several hundred more MWs of capacity in the pipeline with financing already committed. Although the first bullet under the "Bottlenecks" section on page 41 includes the "relatively high front end costs and relatively long payback periods" of renewable energy projects as a reason for the lack of public or private capital, the statement is not usually true for biomass cogeneration projects. Again, hundreds of millions of dollars in financing have been committed with a USAID investment of less than \$10 million. Changed to make exception for biomass.

Other clear accomplishments funded under the BEST Project are mentioned in the draft evaluation but the link to the BEST Project is not mentioned. For example, page 26 mentions "the approximately \$10 million in construction funds that have been leveraged by EEAF for eight RET projects ...". The Environmental Enterprises Assistance Fund (EEAF) grew out of a task funded under the BEST project in 1991. The original business plan was prepared by Winrock staff. The organization was managed by loaned Winrock staff funded under the BEST Project for several years. Written minutes from the initial EEAF Board meetings clearly show the role of project-funded Winrock staff in the creation of EEAF. Addition made.

Winrock International seeks to build capacity across all of its programs and is an important component of the work carried out under the BEST and REAT projects. Funds provided by U.S. ECRE from 1992-1996 were combined with resources from the BEST project to help develop and launch the REPSO concept. One measure of the quality of an institution and its likelihood of

success is the quality of the people it can attract as employees and as Board members. On page 59, the report describes the staffs at the three REPSOs visited by the evaluators as "energetic professionals".

Another measure of the quality of an institution is its ability to obtain funding from multiple sources. At the bottom of page 47, the report states that the REPSOs have been "relatively successful in attracting additional leveraged funding." The Appendices describe some of the funding each of the REPSOs has secured from sources other than the REAT and BEST Projects. In all cases, the REPSOs have attracted funding to support renewable energy activities far beyond the contributions made by the REAT and BEST Projects.

Winrock International considers the selection and hiring of quality staff and the raising of additional financial support as significant accomplishments. Winrock has brought staff from each of the REPSOs to the United States to describe ongoing activities and to showcase their capabilities. Without exception, REPSO representatives have made effective presentations to Winrock senior management on how to integrate renewable energy with rural development. All this may be true, but WR still does not have local directors for the India and Brazil offices, and have made false starts in Indonesia and the Philippines.

The REPSOs are not the only example of capacity building. Work sponsored on sugarcane cogeneration under the BEST Project led to the formation of the International Cane Energy Network (ICEN) which links the major privately funded sugar research institutions in the world and creates a forum in which they can exchange technical information on cane energy production. Early work has focused on the development of research protocols that will facilitate exchange of technical information. These institutions now spend millions of dollars on cane energy research in a coordinated fashion. The draft evaluation report notes the ICEN newsletters in its publications list. Addressed in revisions.

Although many of the accomplishments mentioned above are included in the evaluation report, they are spread throughout the report and described in a way that minimizes their significance. Winrock requests the evaluation team briefly recognize these accomplishments in a single section. See section 3.4.4 of the report.

### Changing Goalposts

The period of time from 1995-1996 on which the evaluation focuses was a period of time when USAID was undergoing dramatic changes in its internal management and reporting structure. Winrock feels the draft report sometimes does not adequately distinguish problems that could be attributed to Winrock management from problems that result either from the dramatic change in funding that occurred between Year One and Year Two of the NGO/REI cooperative agreement or from the introduction of the New Management System (NMS) and the resultant changes in

project monitoring, budgeting, and contracting at USAID that occurred after the original cooperative agreement was approved.

The following five paragraphs contain material that was not available to the team during the evaluation.

When Winrock initially discussed bringing IFREE, REETI, CREST, and VITA together under one initiative that could work through the REPSOs, the motivation was to improve coordination and strengthen the ability of IFREE, REETI, and CREST to manage USAID-funded activities. Winrock felt achieving this objective would take a minimum of five years. USAID verbally indicated their willingness to consider five years assuming steady progress was evident but was only willing to commit to two years. After some discussion, Winrock decided to proceed, submitted a proposal for \$4.8 million and eventually signed a two year agreement for \$4.4 million.

Within months of signing the agreement, funding prospects for USAID changed and the U.S. government was shut down for weeks. The USAID project officer warned Winrock that decreases in FY96 funding were likely. The draft evaluation report mentions these changes as background but ascribes limited significance to them.

For Winrock and its NGO/REI subcooperators, the changes were profound. The management environment changed from constructive engagement to worry and suspicion. On page 44 in the "Management of Subcooperators" section, the report states that subcooperators "felt "left in the dark" concerning budgetary levels or their respective allocations". The report does not say that Winrock also felt "left in the dark concerning future budgets". Feeling "left in the dark" was unavoidable considering the circumstances and was not an outgrowth of management.

Corrections made in text

Winrock tried to maintain momentum behind the NGO/REI initiative and repeatedly stated its commitment to continuing to work with the subcooperators even if USAID funding ended. Winrock also repeatedly stated its interest to work together to identify and secure other sources of funding. From the beginning of the NGO/REI Agreement, Winrock conducted monthly meetings, to which all subcooperators were invited. Participants discussed programmatic and operational issues as well as other issues of common interest. Monthly meetings were held with subcooperators through August 1996. As it became clearer that funding from USAID for the second year was not forthcoming for all subcooperators, participation in the meetings dropped and interest in the partnership waned.

Although ultimately USAID obligated \$1,677,244 to the NGO/REI, \$950,000 of the total came from OYB transfers from missions (Indonesia \$700,000 and Brazil \$250,000) specifically interested in providing support to the REPSO in their country. Instead of the \$2,136,000

expected for Year Two, the total available funds equaled \$727,244 -- roughly 34% of what was expected and significantly less than the \$914,000 allocated to the subcooperators in Year One.

This dramatic budget change not only affected relations with the subcooperators, but it affected other management decisions. In response to the uncertainty, Winrock deliberately slowed expenditures against Year One tasks. We did not quickly move to fill vacant positions and it has not been easy to hire the kind of staff we seek for projects with uncertain budget futures. Consequently, implementation of the NGO/REI agreement was delayed.

The second major change that occurred after the signing of the NGO/REI cooperative agreement was the introduction of the New Management System throughout USAID. The draft report generally describes the introduction of the NMS favorably. While Winrock agrees that the results orientation of the NMS has positive benefits, we also believe the timing of the introduction of the NMS and the uncertainty about how to apply it delayed preparation, review, and approval of the BEST and NGO/REI workplans.

For example, on page 37, the report states the NGO/REI workplan for the period 11/6/95 to 11/5/96 was finally delivered and accepted on 11/27/96. In fact, the draft workplan was first submitted on 12/22/95. ~~Noted and corrected.~~ This version included indicators associated with each proposed activity. Although these indicators matched the cooperative agreement, they did not correspond to the new and evolving USAID Strategic Objectives/Results Indicators first developed in February 1995. As a result, the work plan was returned and we were asked to retroactively apply the new SO/RI to the workplan -- a daunting task that would have required extensive rework of some parts of the plan and some renegotiation of the signed agreements with the subcooperators. After many discussions and modifications, a revised plan without the new SO/RI was submitted and approved in November 1996.

Similarly, we believe many of the problems in reporting described in the first paragraph of the page 40 "findings" section result from the introduction of the NMS. The approach approved in our cooperative agreements seemed no longer acceptable and there seemed to be a requirement for far greater detail in our quarterly reports than we had budgeted to provide. In a slightly different context, the statement at the bottom of Page 24 acknowledges that better tracking of results "would add appreciably to the effort and cost of the project."

We submitted the first quarterly report for the BEST project in draft form to make sure the format was satisfactory. We received numerous comments from USAID on the content and format of this quarterly report and the report was not finally accepted until 5/96. Similarly, we submitted a draft of the second quarterly report which received numerous comments and was not finally accepted until 8/96. Subsequent reports have been more timely since the practice of submitting a draft report for comments was eliminated.

141

### Succinct Recommendations

The draft report currently presents recommendations after each section. As a result, the relative importance of various findings and recommendations is not clear. It would be helpful if the evaluation team could separate the recommendations into a separate section and highlight those recommendations that are considered most important. Table of priority rankings added to Chapter 4.

### Clarification of Major Issues

Winrock would like to address five major issues. Some of these have been mentioned above:

#### *1. Transfer of staff to Brazil and failure to recruit replacement.*

Page 38, paragraph 3 describes the transfer of one Winrock Program Officer from Washington to Brazil and the failure to refill this position as a serious management mistake. While there is no doubt, that the transfer of this Program Officer did affect the management and reporting under the NGO/REI agreement, we feel the overall importance attached to this transfer decision is exaggerated. It is mentioned again on page 42 and page 48. In light of the strong support from the USAID Mission in Brazil, the transfer was discussed and approved by the USAID Program Officer. It was the timing of the transfer that the team objects to--not the action.

Winrock's hesitancy to fill the vacant position in view of the expected budget cuts combined with the difficulty of hiring talented staff for a project with an uncertain future had greater impact on the management of the NGO/REI agreement than the decision to make the transfer. While management of the NGO/REI agreement did suffer, development of the Brazil REPSO was greatly strengthened as evidenced by the FY96 \$250,000 OYB transfer from the USAID Mission. Text revised.

We also feel concern about the unfilled vacancies for the Utility Initiative and for the Multilateral Development Bank (MDB) Initiative are overstated. Besides the discussion on page 38, additional references appear on page 55 and page 57. The combined total FY96 funding proposed under the NGO/REI and BEST projects is relatively small (approximately \$150,000). Our conclusion was that the UI and MDP work was more important than the budget and effort it received.

Responsibility for management of the Utility Initiative was handled from Brazil through October 1996 and then transferred to the Program Director in Washington. Contrary to the statements on page 38 and 48, respectively, that there has been "almost complete neglect of the two mentioned initiatives" and that they are "virtually unstaffed", Winrock prepared a proposal in late 1996 for

funding to match the USAID's funds allocated to the Utility Initiative. A matching grant of \$140,000 was awarded to Winrock in February 1997. By whom? Was this AID, DOE, or Rockefeller? This information not available during the evaluation.

Responsibility for management of the MDB Initiative was also handled from Brazil through October 1995 and the task has been broken up and distributed to individual REPSOs since then. Again contrary to the statements on page 38 and 48, MDB activities are ongoing in Brazil, India, the Philippines, and Indonesia. The majority of funds being spent under the MDB initiative are being spent in Brazil .

## *2. Relations with Subs.*

Given the dramatic budget reductions experienced between Year One and Year Two of the NGO/REI agreement, we think there is little more we could have done to improve relations with subcooperators. The team disagrees, i.e., information exchange could be improved.

## *3. Ratio of funds spent in Washington to funds spent in the field.*

Page 50 references a 1995 U.S. ECRE evaluation of the REPSO initiative and states it found "the ratio of dollars spent on the initiative by Winrock/Washington compared to the dollars made available to the REPSOs was five to one." The report suggest the ratio has remained the same. Both of these statements are grossly inaccurate and misleading because they start from the allocation of \$60,000 dollars per REPSO. The \$60,000 per REPSO does not include any funds awarded through cost-shares (not true). It does not include the fielding of technical teams who work exclusively on specific project initiatives (true). It does not include the salaries and associated overheads of long-term Winrock staff based in the field (true).

Because of our concern about the misleading nature of this statement, we prepared a quick analysis of how funds are spent. The actual percentage of funds spent in Washington is between 25 and 45 percent depending on how you allcoate travel costs and time of long-term staff when working in the field -- in other words a ratio of two to three rather five to one! Less funds are spent in Washington than in the field. We made the estimate by dividing the total funding (which may have been high by about 2 million) by the estimated sum of contracts to local parties, including REPSOs and cost-shares. This yields a ratio of 4 to 1.

Because of the priority placed by Winrock on capacity building and on development of local professional staff in the key countries where we implement activities, this issue is important to us because it misrepresents what we think we are about.

## *4. Sustainability.*

Although one of Winrock's primary objectives is to assure the sustainability of the REPSOs, our experience suggests that sustainability cannot be achieved in two or three years. Consequently, it was not listed as an objective in our initial agreements or work plans. Building institutions takes time and we do not want to pretend that we have a magic formula. This is true, but if sustainability is not an objective from the start, the chances of an organization not becoming self-sustainable are greatly increased.

Since the budget cuts (which occurred after our agreements were signed), we are increasingly asked about how soon the REPSOs will be able to survive without USAID support. Although we appreciate and share USAID's desire to create sustainable institutions, the pace at which organizations progress will vary depending on a variety of circumstances. If USAID funds are stopped after only a few years, it is possible that some of the REPSOs will not be able to survive and prosper.

However, there are intermediate steps that can be used to measure progress. Does the organization have a business plan? Do they have an accounting system compatible with their projected business? Can we help make the professional staff more visible internationally? Does each REPSO have a diversified set of funders? Have ideas been proven in one REPSO that could be used by another? We agree, all of these questions must be addressed in any process towards sustainability.

### *5. Travel budgets*

Statements on page 35 suggest that Winrock staff are "engaged in non-essential travel". Page 69 suggests staff not have "broadening travel" as their primary concern. We feel this assertion is without merit. We will happily provide detailed information on staff travel and the reasons for each trip. The team is just reporting what we were told at all three Missions visited.

### Factual Corrections

#### *1) Financial*

Page 7: Under 2.1.3 Winrock and the NGO/REI Program

The 8th line says "However, only \$987,057 was actually spent in 1996-\$447,103 to subcooperators and \$539,954 in house". This statement is incorrect. Our December, 1996 Invoice to USAID shows \$1,215,352.63 was spent on the NGO/REI Agreement of which \$619,334 went to subcontractors and the remaining \$596,019 to Winrock. Issue resolved and corrected.

Page 9: The last sentence of the 3rd paragraph says “the total for these six agreements is approximately \$8.2 million”. We are not sure which six agreements are referenced but we cannot identify a combination that would total \$8.2 million. Buy-ins under the BEST Agreement total \$497,000. Two mission buy-ins, plus four Cooperative Agreements with other missions total \$8.2 million as per the January 1997 SAR.

Page 10: The amounts referenced in the 2nd paragraph for Winrock’s Agreements with US/ECRE are incorrect. We had three agreements with US/ECRE and the amounts for these agreements were \$451,745 for Year 1; \$462,500 for Year 2; and \$373,000 for Year 3. Originally we were to receive \$501,745 for Year 1 but \$50,000 went to US/ECRE for Management. The original amount for Year 3 was \$525,000 but \$152,000 was subtracted from the final invoice for cost shares not committed as of October 31, 1996. We requested a no-cost extension to complete the cost share awards but the request was denied. The period covered by these three agreements was approximately four years not five.

Apparently the US/ECRE budget for 95 was 0, but \$448,000 was actually paid in 95. It is also noted that \$202,000 of the allocated amount was not paid to WR for several months in a dispute over the validity of an expired cooperative agreement.

Page 11: In the second paragraph, reference was made to the REAT project, which reads as follows: “In late 1995, a new cooperatives agreement..., was issued to Winrock for \$4.4 million over a two year period.” While it is true that we submitted a two year proposal for a \$4.8 million project, the amount obligated for the first year was \$2.264 million only. In the next paragraph, the last sentence reads “of the \$4.4 million obligated \$3.9 million was spent”. The numbers are not correct. The total amount obligated is \$3,941,244 of which \$1,365,335 was spent as of 2/28/97. Numbers corrected in text.

Page 30:: In the second paragraph, it is not true that “Winrock’s management of the NGO/REI part of REAT amounts to \$500,000 per year”. Our accounting report shows the total expense for the Management line item is \$125,044 as of March 31,1997 (a period of roughly 17 months).

Text revised.

Page 44: Management of Subcooperators:

The 4th paragraph of the findings also on page 44 indicates that Winrock receives advances from AID but does not “upfront” money for the subcooperators. This is not the case. Winrock bills USAID monthly and likewise expects the subs to bill Winrock as per the terms of their agreements with Winrock. Paragraph deleted.

Table 5: The column labeled 1996 Winrock is wrong. We have attached a summary of the proposed budget broken into different categories. Most costs attributed to Winrock are not incurred for “management”. Table revised.

145

2) Program

Page 10: Paragraph 3 of Section 2.2.2.1. describes the original intent of the U.S./ECRE - Winrock partnership as “Essentially, the task was to establish the REPSO network and strengthen each REPSO to the point where they could be self-sustaining.” Although strengthening the REPSOs was one projected benefit, the primary objective of the U.S. ECRE - Winrock partnership was to identify and develop commercial renewable energy projects in the REPSO countries. **Text ammended.**

Page 39: The report makes several references to the “informal reporting system” and the last paragraph on page 39 states that no written minutes or notes are kept that record decisions. Although formal notes have not been kept, Winrock has prepared an agenda for each weekly meeting going back at least two years. By looking at the weekly agenda, you can see the dates when draft and final reports were submitted. We would be happy to share copies of these agenda with you.

Page 42: The last bullet on the page suggests that Winrock works primarily with donors, governments and people. Winrock also has a long history of encouraging public/private cooperation and has strong private sector representation on its Board of Directors. **Text ammended.**

Page 43: The second paragraph states “The most appalling element in this process, however, is an almost complete lack of regard for the client/intended beneficiaries, with each person or office blaming the other while apparently not attempting to resolve the delays.” Winrock feels responsible for the failure to overcome the layers and delays in approvals and we consider it our failure. We regret if any of our staff suggested that others were to be blamed. **“Blame” deleted.**

The process was not always burdened with delays. The process used early in the BEST project and for the early cost-shares funded under the U.S. ECRE subagreements worked. Proposals were processed much more quickly than they are at present. As the process has become increasingly encumbered, we have not take action quickly enough to effect necessary changes.

Page 44: Paragraph one states the BEST project “has only one subcontract for the Carbon Sequestration Research activity”. At the time the report was prepared, BEST also had subagreements with the REPSO partners Fundacion Solar and YBUL as well as outstanding cost-share subagreements. **Text revised.**

Page 45: Paragraph on information dissemination does not mention the Philippines REPSOource that was distributed in the first quarter 1996 or the Brazil REPSOource which was also in production at the end of 1996. **Additions noted.**

Page 47: The first paragraph under the “findings” section incorrectly states “The principal financial leveraging mechanism used by Winrock in both the BEST Project and the NGO/REI Initiative is the Multilateral Development Bank initiative.” The primary mechanism we have successfully used to leverage financing is sharing solid technical and economic analysis from studies of specific projects with potential investors. **Change noted.**

Page 47: The third paragraph under the “findings” section omits several important YBUL funding sources. In addition to the funds from the USAID Mission and EAAF, YBUL has also signed an agreement to manage the \$750,000 UNDP small grants program, an agreement for approximately \$35,000 with the Japan International Cooperation Agency to organize a meeting on “Sustainable Markets for Renewable Energy”, and an agreement for approximately \$20,000 with the International Institute for Energy Conservation to produce a trade guide on energy efficiency. Perhaps more importantly, YBUL has attracted private financing commitments from two local banks totaling \$2 million. **Additions noted.**

Page 48: We have attached organization charts for the overall Renewable Energy Division and for each of the projects. **Included.**

Page 51: The “findings” paragraph says that neither YBUL or Fundacion Solar receive overhead payments from Winrock. Winrock has been aggressively encouraging both organizations to develop accounting systems acceptable to international funders. Development of such systems will be critical to future sustainability. Up to this time, Fundacion has actively resisted the use of an overhead system and YBUL has been unable or unwilling to define overhead pools. In spite of this resistance, Winrock has built small overhead rates into these agreements. We are also working with YBUL on timely submission of invoices. They tend to wait until they need funds before submitting an invoice. **Included.**

### *3) Appendices reporting on field visits*

Page 59: Section 4.15. “REPSO Staffing -- Winrock” states that most of the staff at the REPSOs visited, with the exception of YBUL/RENI, have been trained as engineers. The staff at the Fundacion Solar come from diverse backgrounds including a lawyer who has worked on land tenure issues, a community organizer, and an economist. The REPSO source featuring Central America published in the First Quarter of 1995 provides a profile of the Fundacion and its staff. The staff hired at the India REPSO at the time of the team visit consisted of three engineers and one community outreach person. Of the two positions unfilled at the time, one is for someone with finance skills, and one is for the Director who needs to bring strong private sector skills. **The REPSO funds available to FS only support one or two part time people and generally they are the technical people. It is true that there are economists and attorneys associated with FS. In India, the outreach person was just hired in January and they are still looking for the director and business person. The missions commented that additional skills were sorely needed.**

Page 63: The section on "Funding and Support" discusses the need for the Fundacion Solar to move away from "volunteerism". This section does not mention that Winrock has been working with the Fundacion Solar on the development of a business plan to serve exactly these purposes. Preparation of the business plan is one of the tasks in the NGO/REI annual work plan for the Fundacion Solar and also for YBUL. Information added concerning the business plan.

Page 64: Section 2.1.5.1, the paragraph implies that Winrock staff were not paying attention to the cost shares; these potential cost-shares had some serious issues to be resolved before they could be contracted. Indeed, the "first choice" for the REAT project, after a great deal of due diligence, turned out to have a serious conflict of interest issue. Both of the biomass projects had similar issues, which have since been resolved. We said "adequate attention." This process should not be as protracted as it is.

Page 69: The last paragraph on page 69 is mean-spirited and overlooks the observation made on page 65 that there does not appear to be much U.S. private sector interest in Guatemala. Most of the proposals being developed in Guatemala are being developed by local companies that need more assistance and time to put together a credible proposal and workplan that has a chance to obtain funding.

We did not intend to be mean spirited. We do want to call attention to the fact that delays in approval of payment for work often have serious personal consequence for the contractors. Managers in government and large organizations often fail to realize that not everyone gets a monthly paycheck regardless of their activities. This is not the case for those who own or are employed by small businesses. The small organizations involved in the REPSO business have neither the resources, nor the credit to meet payrolls if payments are not received promptly. When they cannot, the owners and employees have gone several months without paychecks while the required approval lays in the in-basket of some official who thinks he or she is too busy to get to it. We were attempting to point out that the officials might rethink their priorities if their own paycheck, like the small contractors, depended on their timely approval.

We are not as concerned about the approval of proposals since they are less likely to cause anyone any real financial hardship. Delays of the magnitude witnessed in Guatemala, however, do reflect badly on the entire program and on the U. S. Government.

Page 74: The second paragraph of section 1.5.4. "Renewable Energy Advocacy" says India needs more than 100 MW of new capacity by 2005. This number must be wrong -- it is more like 100,000 MW. Renewables can easily contribute tens of thousands of Mws. Figure corrected.

Page 77: 1.3. Funding and Income

See program note above under Page 47.