Global Environment Facility

GEF

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February 22, 2005

Dear Council Member:

The World Bank as the Implementing Agency for the IFC-executed "Renewable Energy and Energy Efficiency Fund (REEF)" has submitted the attached proposal regarding a revision to this project.

The amendment involves the restructuring of the Fund, and a variety of changes, including a revision of the project's objectives. While the initial proposal proposed a large-scale investment fund with commercially competitive rates of return and a focus on large renewable energy and energy efficiency investments, the restructured REEF will focus on the development of smaller investments, mainly in Small and Medium Enterprises in the area of renewable energy and energy efficiencies. It will also include a seed capital facility to enable small businesses to grow and develop their skills and operations to the degree where they will be able to access commercial financing. IFC has defined rather strict performance milestones for the restructured REEF. If the milestones defined for the first two years of operation after the restructuring will not be achieved, IFC has suggested closing the fund and terminating the project.

Of the $ 24.75 million initially allocated to the project, $1.07m has been spent on the management of the original fund. The restructured REEF will allocate $14m to investments, $2.6m to technical assistance and capacity building, and $2.1m to management. The remainder of $4.98m will be returned to the GEF Trust Fund.

We consider these changes to be major amendments to the original project document endorsed in October 1997. We fully expect this to be the final revision or amendment to this project. In keeping with the GEF procedures, the Secretariat is reviewing these proposed changes with a view to ascertaining their appropriateness in light of the project's revised objectives.

If by March 22, 2005, I have not received requests from at least four Council Members to have the proposed project reviewed at a Council meeting because in the Member's view the project is not consistent with the Instrument or GEF policies and procedures, I will complete the Secretariat's assessment with a view to endorsing the proposed project document.

Sincerely,

cc: Alternates, Implementing Agencies, STAP

THE WORLD BANK/IFC/M.I.G.A.

OFFICE MEMORANDUM

DATE: February 10, 2005

TO: Mr. Leonard Good, Chief Executive Officer and Chairman, GEF

FROM: Steve Gorman, GEF Executive Coordinator, The World Bank

ENSION: 35865

UBJECT: Request for Approval to support a restructured Renewable Energy and Energy Efficiency Fund (REEF)

Executive Summary

This memorandum requests CEO approval for amendments to the Renewable Energy and Energy Efficiency Fund (REEF), which was endorsed by the GEF Council in October 1997. REEF became effective in February 2000 with the completion of the equity fund's first closing at the level of US$ 65 million from IFC and private sector investors. At this level, the GEF approved pro-rata funding was US$ 24.75 million. In late 2002, investors (including IFC, in its own capacity as an investor) closed down the fund due to a variety of factors including changed market conditions and a general downturn in the power sector.[1]

Under the original REEF, GEF provided incremental funds for the management costs related to identifying and structuring smaller, riskier projects – projects that ultimately were not pursued by REEF. In addition, GEF provided a proportion of the investment capital towards the smaller, riskier projects that required concessional capital in order to overcome barriers to proceed. These smaller investments were called "enterprise investments." However, at the explicit request of larger investors in REEF, the fund's management focused predominantly on larger projects with higher expected rates of return, which few projects could meet. Limited efforts were made to develop enterprise investments prior to the REEF closure. The amendment set forth here would allow GEF funds to meet the need to provide financing and technical assistance to small and medium sized renewable energy and energy efficiency projects as originally envisioned in the 1997 endorsement.

The proposed amendment is to establish a dedicated capital and services pool within the larger business plan of E+Co, a specialized public purpose investment company[2] that channels investment and services down to the energy SME/entrepreneur level. "REEF-II" would be a

[1] On May 27, 2003, the Environment and Social Department of IFC wrote to the GEF Secretariat regarding the need to review the re-alignment of IFC/GEF Renewable Energy and Energy Efficiency Fund (REEF) following a decision by the investors to close the fund.

[2] E+Co is a U.S. 501(c)(3) tax-exempt corporation, operational since 1994.

segregated fund[3] of $14 million in investment capital. This capital would be augmented by an additional $70 million of investment, managed by E+Co and invested in renewable and energy efficiency enterprises in select geographies over 5 years[4]. These enterprises would meet the same GEF financing criteria and guidelines as set forth in the REEF project document. E+Co was one of the co-managers of the original REEF fund, and would have managed the enterprise investment elements had they advanced.

Most investments at the project level would be debt or convertibles, a move away from pure equity investments envisioned in the original REEF. It is expected that additional co-financing would be secured on a per project basis, leading to the leveraging of GEF funds (1 : 10).

The amended REEF-II has been kept consistent with the original REEF as much as possible, including the end date of GEF contributions to the fund and a reduction in the total GEF commitment to the fund. REEF-II builds on lessons learned from REEF and other recent assessments of the renewable market[5].

With E+Co serving as the fund manager, REEF-II would utilize the E+Co approach to energy enterprise development. IFC is familiar with E+Co as it is an IFC approved intermediary. Prior to making this proposal, IFC evaluated E+Co's past performance particularly as regards to their experience with enterprise investments. These findings are addressed in Annexes 2 and 3. Following this evaluation, IFC submits that the E+Co model could be an important step in addressing the problems faced by IFC with regards to scaling up renewables in remote locations. This, combined with the fact that E+Co is among the few players with experience in the enterprise investment sector support this proposed amendment to the GEF-REEF project.

IFC is canceling US$ 4.98 million of the original CEO-endorsed GEF grant.

E+Co Background and Business Plan

E+Co's business plan is rooted in the concept that to address poverty reduction, energy waste and millennium development goals effectively, a distributed array of energy entrepreneurs is required as a driving force for development. Per E+Co., a combination of public and private capital has the ability to train, encourage and finance such entrepreneurs. Success is affected by the specialized intermediary channeling the resources and services down to the entrepreneur/SME level. E+Co is such an intermediary. Where success bears fruit, follow-on investment in enterprises and in the sub-sector these enterprises represent, offers the promise of sustainability, focus and scale. Annex 6 outlines in greater detail, E+Co's objectives and the rationale for their model for the promotion of SMEs in the sustainable energy arena.

[3] E+Co has managed a segregated account for the Multilateral Investment Fund of the Inter-American Development Bank since 1998.

[4] Investments would be made in Central America, Brazil and Southeast Asia (Vietnam, Cambodia, Thailand, Indonesia, Malaysia, Philippines and China). This geographic focus should enable the REEF-II funds to have maximum developmental impacts without being too dispersed geographically.

[5] This amendment incorporates the lessons learned from REEF, SDC, PVMTI, IFC/GEF SME program and other related projects.

The ten-year targets set forth by the G8 Task Force in July 2001, outline the following needs in the developing world: (1) non-electricity investments, especially cook stoves for 200 million people; (2) off-grid electricity to 300 million people; and (3) renewable energy based grid electricity to 300 million people.

Clearly, governments in developing countries are not in a position to deliver these services at the scale mentioned. Specialized intermediary organizations like E+Co are needed to provide the building blocks of successful enterprises from training, to development of a business plan, to providing growth capital to scale-up promising private enterprises. These activities are not meant to substitute government efforts in this area, but rather to supplement them in geographies where the right enabling environment exists.

As of September 30, 2004, E+Co has 87 active investments in thirty-two developing countries. Across the spectrum of "clean, modern energy", E+Co is technology neutral, with investments in biomass, hydro, wind, solar thermal, solar photovoltaic, geothermal, LPG and energy efficiency. Details of IFC's due diligence and assessment of E+Co is available in Annex 3.

Beginning in 2004, E+Co has embarked on an expanded business model to grow the scale of their operations and leverage their "on the ground" resources in Costa Rica, South Africa, Thailand, Brazil and Bolivia and partnerships with 9 organizations in Africa, Central America, Brazil and western China. The REEF-II proposal is a key component in this "scale-up" model, providing funds for both investment and services to prepare the investments. The plan is for E+Co to scale up from its current annual levels of US$1.7 million invested in 25 projects to invest an average of US$16 million invested in 77 projects per year over 5 years.

Table 1: Breakdown of E+Co projected investments by region

Investments by E+Co directly and through its affiliate companies

		2004[6]	**2005**	**2006**	**2007**	**2008**	**TOTAL**
Africa	#	*7*	*26*	*41*	*50*	*20*	*144*
	$	680,000	2,800,000	4,260,000	5,720,000	2,080,000	15,540,000
Asia	#	*8*	*6*	*19*	*31*	*34*	*98*
	$	800,000	900,000	4,100,000	7,200,000	7,200,000	20,200,000
LatinAmerica	#	*14*	*25*	*36*	*38*	*32*	*145*
	$	3,400,000	8,300,000	13,200,000	13,600,000	10,000,000	48,500,000
Total	#	*29*	*57*	*96*	*119*	*86*	***387****
	$	4,880,000	12,000,000	21,560,000	26,520,000	19,280,000	**84,240,000**

*in 200 enterprises

In order to place US$84 million in capital, E+Co estimates that it would need to raise an additional US$14 million in grant funding to cover the cost of services. The funding requirements to execute the business plan are shown in Annex 1 (prepared by E+Co).

[6] For 2004, it is projected that E+Co will place $2.3 million through 22 investments. The expected 2004 closing of the $20 million Central American Renewable Energy and Cleaner Production Facility (CAREC), expected in 2004, is likely in the first quarter of 2005.

REEF II would contribute to achieving these objectives by, first, increasing the flow of seed capital to small and medium sized clean energy enterprises in developing countries; second, facilitating the availability of later stage "growth capital"; third, acting as a catalyst and "market change agent" through its empowerment of E+Co's 5-year $84 million capital plan; fourth, supporting the advisory, management and transaction costs that deliver not only modest return financial transactions but increase the capacity and efficiency of organizations and individuals to carry on future transactions.

E+Co's business plan sets forth not only a "path to scale", but also a path to organizational growth and sustainability. Over the five-year period of its business plan, E+Co plans to reduce its dependency on grants and contracts, greatly increase its financial sustainability. To do this, E+Co must increase the efficiency by which it provides services and prepares enterprises for investment, as well as put in place sufficient investment capital to produce returns that would increasingly contribute to the costs of its services and operations. E+Co's strategic relationship with its Funds and Affiliates would also provide dividends, further supporting the organization's growth and sustainability, and reinforce its ability to invest in additional energy enterprises

Success Criteria

E+Co has developed a Monitoring and Evaluation program to measure its social, environmental and financial impacts along numerous metrics (Annex 6: Project Objectives, Benefits, Barriers Addressed and Rationale; Annex 8: Triple Bottom Line Matrix). This program would allow success to be measured both at the REEF-II fund level and the aggregate business plan level. E+Co would be evaluated on several success indicators designed to measure the financial, social and environmental benefits of its 5-year business plan:

- 7.5 million people receiving clean energy from investment enterprises;
- Measurable levels for GHG reductions (Annex 6: Project Objectives);
- 75% of investments (by dollar measure) are operating, current on debt payments (average days outstanding of less than 60 days) and receiving growth capital;
- 15% of investments (by dollar value) are operating and current but may not be receiving growth capital;
- 10% of investments (by dollar value) are either in re-negotiation or have been written off; and
- Proving the model of combined specialized services and technical assistance leading to seed capital, leading to growth capital for energy enterprises, using cost ratios and capital leverage results.

The Recommended REEF-II Project

The segregated REEF-II facility within E+Co would consist of $14 million of investment capital and up to an additional US$ 2.6 million earmarked for technical assistance and capacity building. Under agreement between E+Co and IFC, management fees would be calculated on a variable basis at the beginning of each investment year, with a maximum of US$2.1 million. This structure would require E+Co to consistently perform up to projections in order to earn the full fund management fee. This structure was adopted at the behest of IFC in light of the experiences of REEF, SDF and PVMTI with regards to fees.

Investment and services funds would be employed in both early stage and more mature, later stage renewable energy and energy efficiency projects and are to be disbursed within the original REEF operational period ending December 31st, 2010. E+Co would invest in enterprises that would either be considered too risky by local FIs or that require additional co-financing to leverage local FI investment. REEF-II funds would not be invested in place of local/regional FI investment. REEF-II funds would be directed towards investments in Central America, Brazil and Southeast Asia[7]. This regional focus would enable E+Co to attract more commercial co-investment, place more capital with less technical assistance and receive greatest returns, while generating social and environmental benefits.

Funding Allocation

With this amendment, the original US$ 24.75 million of GEF funds would be restructured as follows:

Original sum allocated by GEF to REEF	US$ 24.75 million
Management fees and expenses to date	US$ 1.07 million[8]
Remaining sum from original allocation	US$ 23.68 million

The amended project budget would be:

REEF-II Investment Capital	US$ 14.00 million
REEF-II TA/Capacity Building	US$ 2.60 million
REEF-II Management Fees	US$ 2.10 million
Total funding from GEF for REEF-II	US$ 18.70 million
Remaining sum to be returned to GEF	US$ 4.98 million[9]

Based on the existing pipeline, E+Co plans to commit roughly 25% of the investment capital to early stage investments and 75% of investment capital to mature, later stage investments as shown below.

[7] REEF-II would not be allocated to Africa, as E+Co is currently negotiating Euro 8 million of funds from KfW for services and investment in Africa.

[8] Of this sum only US$ 16,000 was spent by IFC on prospective project execution, the remaining was expended by the REEF Management team.

[9] Of the US$4.98 million being returned, US$ 4.75 million was originally earmarked for GEF co-financing (i.e. investments), and US$ 0.23 million was originally allocated for management fees.

Table 2: REEF II Potential Pipeline and Funding

	Total Pipeline	Success Rate	[10]Funded %	REEF-II Funding
Early Stage Investments	$4,670,000	76%	100%	$3,500,000
Mature Investments	$150,000,000	50%	14%	$10,500,000
Total REEF II Investment				$14,000,000

In order to support the proposed US$ 14 million portfolio, we anticipate capacity building expenses of US$ 2.6 million. Experience has indicated that early stage investments incur higher transaction costs per dollar invested than the mature larger projects due to the smaller size and inexperienced nature of the potential sponsors[11]. E+Co plans to use local expertise and support to the greatest extent possible in finding, screening and developing these projects. Unused capacity building funds at the end of year 6 would be returned to GEF.

Milestones

The disbursement of capacity building funds and management fees would be subject to milestones, measuring the success of E+Co's performance with regards to both the quantity of disbursements and the quality of investments made. The REEF-II funds would be evaluated after the second year of operations. Should E+Co not meet the milestones, IFC would have the right to close REEF-II after year 2. E+Co and IFC have agreed upon a measurement of:

- US$ 6 million in disbursed capital
- Writeoffs/reserves from portfolio of less than 5% of invested capital
- Less than 60 days average days outstanding receivables of first year investment portfolio

In creating the figure for management fees and capacity building, E+Co's actual costs on a per project basis for 2003 were calculated ($106,824), and multiplied by the number of investments projected to be approved over the four-year investment period (44).[12] As part of E+Co's business plan, increased efficiencies and cost reductions in these services would be achieved.

REEF-II in the GEF Portfolio

The REEF-II funds would be utilized specifically for services to energy SMEs that prepare them to receive investment from E+Co, using REEF-II funds as well as its other available investment funds. REEF-II's capacity building activities are specific to energy entrepreneurs. REEF-II would influence the removal of policy and awareness barriers through the demonstrative effect of E+Co supported enterprises providing clean energy services on a financially viable basis.

[10] In most of its deals E+Co expects to have co-investment from other sources

[11] Please refer to Annex 2 for a more complete discussion on what measures are in place to see that costs of management are minimized and also a discussion of why such costs are necessary for the development of smaller enterprises that form a significant part of REEF-II.

[12] For further details on E+Co's historical performance, please see Annexes 2 and 3.

Other GEF projects that are in the energy SME investment "space" include the World Bank/GEF co-financed renewable energy projects in Laos, Cambodia, and Vietnam, UNDP's Energy Efficiency in Commercial and Industry Sectors project in Honduras, and the Energy Efficiency Initiative in El Salvador, Nicaragua, Costa Rica, Panama, that BUN-CA, an E+Co partner, is developing with UNDP. E+Co would work with these project sponsors to coordinate and maximize efforts, with a goal to avoid duplication of GEF resources within a particular project activity. In regard to the Central American project, the project implementor, BUN-CA, has been E+Co's local partner in the implementation of a multi-year, multi-million dollar USAID program (FENERCA), which concludes in March 2005. The BUN-CA-E+Co relationship is quite strong, with a fine-tuned understanding between the two organizations of their respective value add and leverage possibilities. With regard to the Cambodian program, E+Co's local partner (SME Cambodia) has been working on the design of this program, and hence close cooperation with them is expected.

In regard to the IFC-GEF Environmental Business Finance Program (EBFP), REEF-II would offer complimentary services and finance in the two specific countries where both programs would be operating, Guatemala and Brazil. Financial Institution (FI) market acceptance of small-scale clean energy investments in the areas where REEF-II would be working does not exist today; it is a major barrier to increasing the scale and impact of clean energy in developing countries. The goal is for the REEF-II investments is to bring enterprise investments to the stage where they can raise financing for expansion or similar projects from financial intermediaries (FIs) within the country/region. Thus, the distinguishing factor defining the nature of the REEF-II investments is that they apply to projects that are not ready for financing by FIs. The finance continuum is that EBFP would follow the REEF-II investment activity and seek to institutionalize it within the local FIs. The relationship between REEF-II and EBFP is therefore complimentary and articulated, with good communications between EBFP and E+Co in order to avoid potential overlap.

Restructured Elements of REEF

The following is the review of the structural alterations in REEF-II with reference to the original REEF Project Document dated September 1997.

1. **Strategic Impact:** REEF-II would make a strategic impact in the locations it invests beyond the proposed investment capital of US$14 million. As a dedicated capital and services pool within E+Co, these funds would seek to attract more than 10:1 co-financing leverage on its debt investments. While some renewable energy technologies and business models that E+Co would invest in would not be commercially viable even by the proposed closing of the Fund (2012), the actions taken in identifying, shaping, co-financing and closing the transactions would have further impact.

The narrow regional focus of REEF-II on Central America, Brazil and Southeast Asia allows the capacity building component to have its maximum strategic impact in:

- Educating local governments,
- Promoting awareness among domestic financial institutions,

- Developing local entrepreneurship for sponsorship of future clean energy projects, and
- Economies of scale as numerous entrepreneurs can benefit from the E+Co presence during the same period.

These activities feed into the potential success of EBFP in engaging those domestic financial institutions at a near commercial basis. The relationship between REEF-II and EBFP and the managing of the country overlap in Guatemala and Brazil is further described in Annex 5.

E+Co would identify the enabling environments for successful renewable energy projects by investing in a variety of smaller projects, and providing follow-on investments for the successful ones as laid out in the investment profiles.

2. **Fund Management:** E+Co, a non-profit initially sponsored by the Rockefeller Foundation with offices in Brazil, Costa Rica, Thailand and South Africa, would serve as the sole fund manager on this project. E+Co has extensive experience in energy efficiency and renewable energy investments in emerging markets and was a member of the original REEF Fund Management Committee.

Utilization of this structure, instead of a joint Fund Management Company structure should streamline the evaluation and approval processes and lead to an alignment of expectations. E+Co would be paid a tiered management fee containing a component linking the fee to the amount previously disbursed, ensuring that E+Co would be reviewed and incentivized annually. Additionally, as negotiated, GEF would not be responsible for management fees in years 7-8 of the program. Since the GEF funds would be utilized only as debt, the management fees would be a modification from the original REEF, where management fees were 2.5% of the Equity Fund only, debt being excluded (paragraph 49, section D).

3. **Milestones:** REEF-II fund management would be reviewed after Year 2 as to the amount of capital disbursed and the quality of investments made. If IFC determines investments up to that point do not meet criteria previously agreed-to by E+Co and IFC, REEF-II would be closed and remaining capital would be returned to the GEF. In this event, the existing investments would either be maintained on a percentage basis or sold to another entity.

4. **Life of Fund:** The investment period for the fund is estimated at 4 years (2005-2008), with continuing supervisory activities for 4 additional years (2009-2012). As stated previously, GEF is not responsible for management fees beyond year 6 of the program unless both parties agree to an extension.

5. **Investment Sectors:** REEF-II is expected to pursue the following types of investments:

- Grid-connected renewable energy projects including wind, biomass, run-of-river hydro, geothermal and solar less than 15 MW. The investment potential was estimated at US$3-5 billion over the next 5 years, with projects ranging from US$1-2 million per MW;

- Off-grid, distributed generation projects including solar home systems and small central stations; and
- Energy Service Companies (ESCOs) as they implement energy efficiency investments in areas such as industry, lighting and heating. Investment potential in this area was estimated at US$2 billion over 5 years.

6. **Investment Vehicle:** The REEF-II funds would be a segregated fund within E+Co, so that it may be monitored and evaluated independent of and as part of E+Co. It is estimated that GEF funds would be co-financed in the short and intermediate term at 10 : 1 (See Annex 6: Project Benefits). As the GEF commitment would serve as a catalyst for E+Co's $84 million business plan, leading to $800-900 million of investment), a total leverage of at a ratio of 50 : 1 could be argued.

7. **Investment Policies and Approvals:** E+Co would seek to create a well-diversified portfolio of investments while attempting to maximize the strategic impact of the projects. Accordingly, investments would be focused on Central America, Brazil and Southeast Asia, in keeping with E+Co's areas of expertise. E+Co would attempt to create a mix of technologies and business models as they fit into the target investment sectors as listed above. It is estimated that REEF-II funds would be divided between enterprise investments and more mature projects in the ratio 25:75 respectively.

Recommended investments would by submitted to a designated IFC representative utilizing existing E+Co investment documents, (Investment Fact Sheet and Recommendation Form). E+Co would document all sources of co-financing to ensure there is no other GEF co-financing on any project. An IFC officer would have 10 days to approve, reject or request further information on a project. If further information is requested, a conference call would be convened within 5 days. Subsequent to IFC approval, E+Co's independent Board/Investment Committee would have a 10-day period to approve, reject, or request further information.

8. **Project Financial Ratio Guidelines:** Due to the nature of enterprise investments and the stage at which REEF-II would be investing, we do not anticipate creating any DSCR or Debt to Equity ratio guidelines for the fund.

9. **Environmental Standards[13]:** REEF-II would adhere to the World Bank Group's environmental policies and guidelines. As E+Co is an already an IFC approved intermediary, they have been previously assessed on their abilities to carry out environmental assessments. IFC would periodically review E+Co's environmental standards as specified in the original REEF project document.

10. **Criteria for GEF Financing:** Guidelines set out in the original REEF project document (paragraphs 41-42) would form the basis of the guidelines for REEF-II financing including eligible countries and accordance in with GEF Operational Programs #5, 6, 7. Contrary to the

[13] IFC has its own environmental and social guidelines and standards and these would be followed with respect to the projects under REEF-II.

original REEF structure, we do not anticipate creating a IFC-REEF-GEF Committee for financing approval.

11. **Reporting:** IFC and E+Co would submit annual reports to GEF covering: (i) status of portfolio; (ii) costs incurred by implementing agencies; (iii) social environmental benefits of sub-projects; (iv) status of fund level co-financing. More frequent, informal information requests may be required by IFC.

<u>Support Summary</u>

This proposed amendment is submitted for CEO approval on the following grounds:

- The proposed investment capital and capacity building funds would serve GEF strategic objectives by catalyzing local entrepreneurs and increasing local Financial Institution awareness in the renewable energy and energy efficiency environment.
- The E+Co model could be an important step in addressing the problems faced by the public and private sectors with regards to scaling up renewables in developing countries.
- The Fund would serve as an effective means to support projects smaller than MSPs
- Financial, social and environmental benefits are well defined and significant.
- GEF/IFC's financial expectations can be met. Return of capital is within historic returns of E+Co investments.
- E+Co is among the few players with experience in the enterprise investment space. REEF-II funds would enable the successful enterprise investments to expand to more mature projects.
- Cost projections are for the Fund are in line with or slightly better than previous experience with SDF and PVMTI.
- Flexible management fee structure and milestone based evaluation after 2 years allow IFC to contain costs if needed.

Please note the contents of the Annexes to this document:

Annex 1:	Funding Requirements for E+Co Business Plan*
Annex 2:	Executive Summary of IFC Due-Diligence on E+Co
Annex 3:	Details of Due-Diligence on E+Co
Annex 3A:	Summary of E+Co Portfolio of Investments Made After 1998 and IRR Calculations
Annex 4:	E+Co Project Pipeline for Early Stage and Mature Investments, June 2004*
Annex 5:	Responses to REEF-II Clarifications
Annex 6:	Project Objectives, Benefits, Barriers Addressed and Rationale*
Annex 7:	Logical Framework Analysis
Annex 7A:	Role of Task Manager in Managing Risks Outlined in the LogFrame
Annex 8:	Triple Bottom Line Matrix*

* These sections are provided by E+Co., and reflect their larger strategy and pipeline projections

Annex 1: Funding Requirements for E+Co Business Plan[1]

SOURCES US$	Total 5 Yr Budget	Commitments	Reasonably Secured	Active Negotiations + Discussions	Still Needed
Investment Capital (Borrowings, New Funds and Grants) -- Latin America + Asia	**75,206,711**	15,960,728	0	15,015,000	44,230,983
Investment Capital (Borrowings, New Funds and Grants) -- Africa	**11,221,500**	1,532,581	0	3,600,000	6,088,919
Repayments from Investments	**28,368,254**	Repayments Received Over Time			
Funds for Services and Operations (Grants and Contracts) [14] -- Latin America + Asia	**10,883,758**	3,856,252	-	5,200,000	1,827,506
Funds for Services and Operations (Grants and Contracts) -- Africa	**2,990,000**	1,851,732	-	2,400,000	(1,261,732)
Total	**128,670,223**	**23,201,293**	**0**	**26,215,000**	**52,147,408**

Organizational Development + Growth	**5,000,000**	1,230,000	3,690,000	-	80,000

[14] The total cost of services and operations for the 5-year period is $21,904,000. The above forecast is based on all repayments in excess of debt service requirements being applied to services and operations costs. More realistically, all of this $8,030,000 would not be applied for this purpose as a need to increase reserves and working capital may tap a portion of these resources.

Annex 2: Executive Summary of IFC Due-Diligence on E+Co

IFC conducted a due diligence of E+Co's activities in an effort to document their experience to date. Some of our key findings are summarized below[15]:

1. Historically, E+Co's equity and debt portfolios have IRRs of –0.7% and 4.4%, respectively, based on a review of all investments made after 1998,
2. E+Co's audited financial statements from 2001 through 2003, show a trend of increasing receivables backlog as shown in Table 2C in Annex 3A. If we take into account the reserves taken against loan portfolio as of December 31st, 2003, the IRR drops to 1.9% (from 4.4%) prior to technical assistance expenditures and administrative expenses,
3. Significant capacity building and technical assistance would continue to be required for similar project activities well into the future. Our due diligence of E+Co shows that for every US$ 1 of investment capital, E+Co spent roughly US$ 2.21 in TA[16] plus management fees. While these numbers have varied over the years, we do not see a trend towards decreasing costs.
4. Beginning in 1998, E+Co shifted its focus from equity funding to debt and convertibles, since experience showed a lack of exit options for the equity investments. The strategy going forward is to exit through debt repayment and/or look for gains through conversion,
5. E+Co's proposed strategy is to focus on building a portfolio of early stage and more mature, later stage investments (most likely with repeat clients or in a geography with a history of previous success). This direction is being taken to improve the success ratio and to keep portfolio risk in check. Their pipeline of potential projects is given as Annex 4 to this document.

Issues to Consider

IFC has carefully analyzed the reasons for the failure of the original REEF initiative and also performed a thorough due diligence on E+Co's operations to date. We have also compared our findings to the experience IFC has had with SDC, PVMTI and other investment opportunities. Our key recommendations are listed below, these recommendations apply to E+Co's entire business plan as well as to the potential performance of REEF-II:

1. Commercial lending and technical support is not readily available to projects in the RE and EE areas, and hence there continues to be a need for TA and financing of such projects with soft money. REEF-II would fill in such a need. While we support E+Co's move towards more mature investments[17] we recognize that they have a limited track record in that area. We have confidence in their ability to identify and execute smaller early stage investments, subject to our estimate of portfolio returns as noted in point 3 below, but see the possibility that larger deals would require more execution time and disbursements may be slower. Hence they may not be able to execute on the expected

[15] For more details on the due diligence, please review Annex 3.

[16] Technical assistance includes costs incurred for NGO capacity building, FI training and policy assistance to governments. E+Co has not yet implemented a process through which to track deal specific TA.

[17] E+Co's average investment size over the last 3 years was US$ 60,000. Their proposal is for an average investment size of US$ 318,000.

number of larger deals, and consequently be unable to use all of the designated funds thus we recommend a disbursement schedule for funds released to E+Co according to milestones.

2. We agree with E+Co that TA and capacity building funds would continue to be needed in this sector. Improvements are possible in the 1:2.21 ratio between investments and TA[18] plus management fees, but this is a function of the size of projects undertaken. Our estimate of the most likely scenario is that E+Co may be able to reduce this ratio to 1:1. This compares well with 1:0.95 ratio for SDF and a 1:0.84 ratio for PVMTI[19]. For REEF-II to be executed as proposed, E+Co would have to demonstrate a ratio of 1:0.34 over 6 years. A key assumption to accomplish this is E+Co's ability to maintain a steady TA + management fee figure ($106,000) while scaling up the size of the project[20].
3. We believe that a hurdle rate of 8% is appropriate for the type of investments proposed. We estimate that realized portfolio returns would be between 0 – 3%. If a 1:1 ratio of investment capital to TA plus management fees is also taken into account, the portfolio would have a negative return.
4. From our review it is unclear whether the capacity building activities and possible success of individual projects leads to sustainable businesses in the future. In this context we define sustainability as the ability to attract commercial financing as well as larger mainstream sponsors without soft funding for technical assistance. Clearly, the likelihood of sustainability increases if the portfolio focuses on projects with shorter payback periods.
5. We believe that it is important to have a shorter, more streamlined review process. We recommend disbursement of capital to E+Co in tranches that are tied to clearly specified performance benchmarks.

[18] Technical assistance includes costs incurred for NGO capacity building, FI training and policy assistance to governments. E+Co has not yet implemented a process through which to track deal specific TA.

[19] PVMTI has investments that are larger than approximately US$ 900,000. These figures are based on their disbursed amounts.

[20] E+Co's average investment size over the last 3 years was US$ 60,000. Their proposal is for an average investment size of US$ 318,000.

Annex 3: Details of Due Diligence on E+Co

A more complete discussion of IFC's due diligence of E+Co's operations is provided below.

1. **Project Pipeline:** Having reviewed the proposed pipeline of projects from E+Co, we feel confident that there is sufficient demand for such projects in the market. However, return expectations have to be in line with historical reality, and this is described in point 2 below. We believe that with simplified approval procedures and a streamlined development effort, E+Co would be able to bring these projects to close. E+Co has provided us with their anticipated pipeline of projects and the same is attached as Annex 4 and 5. As shown, E+Co has a pipeline of 35 enterprise investments in its pipeline primarily in Central America, and Southeast Asia, across various RE and EE technologies. It is estimated that these projects require a total of US$4.67 million. Further, E+Co has an additional 46 larger projects in its pipeline, which have recently completed or are completing feasibility study (Annex 4). E+Co agreed to a tiered disbursal of funds alongside performance milestones.

2. **Existing Portfolio and Returns:**
E+Co's early experience was geared toward high-risk early stage venture capital type equity investing. They adopted their current business model in 1998, significantly altering their portfolio composition. Due to difficulties in exiting their previous equity investments, E+Co's recent investments have been debt instruments (27 of last 28 investments have been loans) primarily in Central and South America and Sub-Saharan Africa. E+Co uses both fixed and floating rate (LIBOR based) instruments, with the majority of their deals between 5-15% interest spanning a 4-7 year period. It is anticipated that debt based structures would continue to be the primary form of investment under REEF-II.

   E+Co believes it can deliver 8 - 13% returns on a project basis, 7 - 10% returns on a portfolio level (after write-downs), and 4 - 5% returns on a fund level (after expenses). E+Co reaches these conclusions based on their experience as an early stage investor in Clean Thai (the one investment implemented under the original REEF). During our due diligence of E+Co's existing portfolio, we determined that E+Co's historical returns have been 2.9%; 4.4% for debt investments and -0.7% for equity investments. Furthermore, our view is that 1.9% IRR is a more accurate reflection of the debt portfolio, since that takes into account the reserves made against the debt portfolio as of December 31st, 2003. This figure is to be compared to the 7 – 10% returns projected on a portfolio basis. Given E+Co's historical figures and our experience with other projects in this area, we believe that future returns would be more in line with past performance of the debt portfolio. Details on these calculations are available in Annex 3A.

3. **Sustainability:** In response to IFC queries, E+Co has provided their future plans for increased efficiency and sustainability of their organization. The fees for capacity building and management estimated for REEF II used the 2003 per project figure of $106,000 as a basis for projection. E+Co estimates that it can gain efficiencies, down to $40,000 per project within 4 years, giving them a more viable business model. If E+Co is

able to execute this plan, GEF can be expected to receive as much as $1.7 million in returned capacity building funds. It is pertinent to note, however, that E+Co has not built in these reductions in their budget request to IFC for REEF-II.

4. **Capacity Building and Management Fee Allocation:** IFC reviewed E+Co's historical data to assess the costs incurred to date per investment. As stated above, E+Co historically incurred $ 106,000 of capacity building and pre-investment costs for which they were compensated through both technical assistance grants (TA) and management fees. This translates to about $ 4.7 million for the proposed pipeline of 44 projects in REEF-II. As previously noted, E+Co has not yet implemented a process to track deal specific TA activities, and hence distinguishing between TA and management expenses was a problem. We were therefore forced to use a very rough method to make this distinction. $4.7 million was divided into capacity building and management fee based on the 2.5% per year management fee arrangement that had been in place during the original REEF. This resulted in a cumulative fee of $ 2.1 million over the program life[21], leaving $ 2.6 million (= $ [4.7 – 2.1] million) as the capacity building/TA component. TA activities include training workshops for potential entrepreneurs, marketing activities for the program, as well as project specific grant funded activities needed to promote and sustain the project among its stakeholders.

[21] 2.5% x $ 14 million of investment capital x 6 years = $ 2.1 million

Annex 3A: Summary of E+Co Portfolio of Investments Made After 1998 and IRR Calculations

Table 2A

	Investments		Active		Fully Repaid (Principal)		Written Down/Off		Receivables Aging		
	#	$	#	$	#	$	#	$	Average Days	Past Due	Amount > 120 days
Debt	74	7,029,983	48	5,067,065	11	1,401,248	15	561,670	318	1,346,701	1,133,637
Equity	13	1,728,000	9	1,258,000	-	-	4	470,000			
Total	87	8,757,983	57	6,325,065	11	1,401,248	19	1,031,670			

	Pooled IRR	Adj. Pooled IRR	Capital Weighted Average IRR, excluding write-offs
Debt	4.4%	1.9%	7.80%
Equity	-0.7%	-0.7%	5.10%
Total	2.9%	1.1%	

Aging figures are calculated on a weighted average basis.
Aging figures do not include US$ 377,000 of past due receivables taken into reserve in 2004. With these amounts included, the average days outstanding rises to 377; past due to US$ 1.891M; and amount greater than 120 days past due to US$ 1.509M.
Per E+Co, 7 transactions totaling US$ 1.1 million are in active restructuring.
Pooled IRR calculation includes all 87 projects provided in summary of projects sheet, inclusive of all write-offs.
Adjusted Pooled IRR takes into account a US$ 623,558 provision made against outstanding receivables as of December 31st, 2003.

a. Discussion of Portfolio Summary

Since 1998, when E+Co entered into their current investment model, E+Co has made 87 investments which are estimated by IFC to generate an IRR of 1.1% prior to expenses associated with capacity building, deal execution and supervision. E+Co proposes this pooled IRR is to grow to the 7 - 10% range for the REEF-II projects. Over the past 4 years, the expenses have averaged US$ 1.92 million annually. After factoring expenses in, projected returns for their existing portfolio would be significantly negative. This negative figure is proposed to rise to 4-5% under REEF-II by taking advantage of efficiencies as mentioned in the sustainability section above.

E+Co is an active investor, in that it continually watches the project company's performance and cash flows, and actively re-negotiates outstanding amounts. Per E+Co's 2003 balance sheet and receivables aging report, about 50% of E+Co's program loans receivables (by dollar value), and 28 of the active 48 (58%) debt investments are past due with an average days outstanding of 318 days from original due date. E+Co believes that most of these outstanding amounts would be repaid at future dates. This is reflected in their audited financial statements as shown in Table 2C. As shown in the table, the percentage of debt due in the first year has been increasing in the three year period from 2001 to 2003. Additionally, Table 2B shows the trend of increasing write-downs, as extracted from the same financial statements. It is pertinent to note that in 2003, E+Co decided to take some large write-downs in an effort to clean its balance sheet.

Table 2B:

i. E+Co Annual Write-offs

	2000	2001	2002	2003
Debt	141,856	135,000	111,918	455,630
Equity	0	0	200,000	445,000
Total	141,856	135,000	311,918	900,630

Table 2C:

Program Loans Receivable by Year, for Year ending statements, 2001-2003				
		Financial Statement Year		
		2001	2002	2003
Amount Due in:	2002	**1,588,761**		
	2003	1,415,640	**2,080,327**	
	2004	855,228	837,887	**2,430,879**
	2005	367,861	420,190	597,947
	2006	57,826	297,582	417,784
	2007		82,892	183,842
	2008		8,334	112,445
	% Due in 1 Year	**37%**	**56%**	**65%**
	% Increase due in Coming Year		**47%**	**190%**

Annex 4: E+Co Project Pipeline for Early Stage and Mature Investments, June 2004

#	Investment name	Country	Technology	Total Outlay
	Enterprise Investments			
	(a) Early Stage Investments			
#	Investment name	(ii) Country	(iii) Technology	Total Outlay
1	San Cristobal Hydro Power Plant	Bolivia	Hydro	250,000
2	Quiron-IDEAAS	Brazil	PV	60,000
3	NovaGerar	Brazil	Bio-gas	300,000
4	Cashew Residues	Brazil	Bio-mass	67,000
5	EcoFogao	Brazil	Energy Efficiency	10,000
6	Seaweed Farming	Brazil	Other	15,000
7	ASCIMA	Brazil	PV	53,000
8	Hidrosol	Brazil	PV	10,000
9	Fazenda Santana	Brazil	Hydro	150,000
10	EcoLuz Barra	Brazil	Energy Efficiency	50,000
11	Ankor Rice Mill	Cambodia	Bio-mass	100,000
12	Siem Reap Power	Cambodia	Bio-mass	75,000
13	Coopesantos R.L.	Costa Rica	Hydro	250,000
14	West Group	Costa Rica	Hydro	250,000
15	Mirador Lodge San Gerardo	Costa Rica	Wind	24,000
16	Arambala	El Salvador	Hydro	250,000
17	San Marcelino	El Salvador	Wind	250,000
18	UCRAPROBEX	El Salvador	Bio-gas	100,000
19	La Laguna	Guatemala	Geothermal	75,000
20	DINTERSA	Guatemala	PV	150,000
21	Solaris	Honduras	PV	100,000
22	Servicios para el Desarrollo Sostenido (SEDES)	Honduras	Hydro	75,000
23	Rio Lindo	Honduras	Hydro	250,000
24	Shaw Park Beach Hotel	Jamaica	Energy Efficiency	255,000
25	Cornwall Regional Hospital	Jamaica	Energy Efficiency	250,000
26	Cleredon Rum Distillery	Jamaica	Energy Efficiency	250,000
27	Cydsa Group	Mexico	Energy Efficiency	200,000
28	Selva Negra	Nicaragua	Wind	25,000
29	ATDER-BL	Nicaragua	Hydro	25,000
30	Corn Island	Nicaragua	Wind	100,000
31	ABOQUETE	Panama	Bio-gas	200,000
32	PASS	Panama	PV	200,000
33	Electric Power Panama	Panama	Hydro	140,000
34	Adonis PV Project	Panama	PV	10,000
35	CER-UNI	Peru	PV	103,600
		Total		**$4,670,472**

(b)	Mature Investments			
#	Investment name	(i) Country	(ii) Technology	Total Outlay
1	Jones Hydro	Guatemala	Hydro	5,200,000
2	Ixpil	Guatemala	Hydro	7,500,000
3	Chan Chan	Guatemala	Hydro	3,800,000
4	El Cisne	Honduras	Hydro	1,217,000
5	La Esperanza II	Honduras	Hydro	6,000,000
6	El Cortesito	Honduras	Hydro	7,000,000
7	San Carlos	Honduras	Hydro	5,000,000
8	La Boquita	Honduras	Hydro	242,000
9	Cececapa	Honduras	Hydro	3,500,000
10	Cenit Zacapa	Honduras	Hydro	1,300,000
11	Coronado	Honduras	Hydro	6,000,000
12	La Gloria	Honduras	Hydro	6,900,000
13	San Juan	Honduras	Hydro	7,500,000
14	Perla	Honduras	Hydro	7,500,000
15	Mezapa	Honduras	Hydro	6,000,000
16	Texiguat	Honduras	Hydro	5,250,000
17	Gualcarque	Honduras	Hydro	12,000,000
18	Rio Cuyamel/ Sambo Creek	Honduras	Hydro	3,255,000
19	Rio Cuyamel/ Santa Ana	Honduras	Hydro	6,000,000
20	Rio Santiago	Honduras	Hydro	6,000,000
21	Arambala	El Salvador	Hydro	3,750,000
22	CoopeSan Marcos	Costa Rica	Hydro	4,500,000
23	SARET	Costa Rica	Biomass	4,000,000
24	Coope Agri	Costa Rica	Energy Efficiency	400,000
25	Cooopronaranjo	Costa Rica	Energy Efficiency	500,000
26	Bioflame	Costa Rica	Energy Efficiency	200,000
27	Gemina Generador	Nicaragua	Biomass	3,845,000
28	Atlantic	Nicaragua	Biomass	4,500,000
29	La Chureca	Nicaragua	Biogas	3,600,000
30	San Andres	Panama	Hydro	12,500,000
31	Rio Cochea	Panama	Hydro	11,200,000
32	ABSA	Panama	Hydro	1,500,000
				$157,659,000

Annex 5: Responses to REEF-II Clarifications

I. Potential conflict or possible overlaps between the EBFP project and REEF-II.

We do not see any conflict between EBFP and REEF-II. In fact we see the two initiatives as complimentary. The intent of E+Co investments is to demonstrate the financial viability of smaller, clean energy projects/enterprises so as to ultimately engage local financial intermediaries (FIs) and other private sector investors. FI market acceptance of small-scale clean energy investments in the areas where REEF-II would be working does not exist today – it is a major barrier to increasing the scale and impact of clean energy in developing countries. The goal is for the early stage REEF-II investments to be followed by investment from FIs for expansion stages of the project and/or similar projects within the country/region. The use of the term "early stage" to define the nature of the REEF-II investments refers not only to the stage of project development, but also refers to the fact that the REEF-II interventions are taking place prior to this type of investment being accepted by the market. The finance continuum is that EBFP would follow the REEF-II investment activity and seek to institutionalize it within the local FIs. The relationship between REEF-II and EBFP is therefore complimentary and not competitive.

Furthermore, E+Co is an intermediary under the IFC/GEF SME Program and would work with the EBFP program team. Internally, coordination between REEF-II and EBFP would be a natural outflow from the current relationship. Furthermore, regular communications would occur on projects in the pipeline, as well as to review potential projects for the pipeline, especially in overlapping countries. Where it appears that an FI might be interested in a particular project directly or via EBFP, E+Co would assist as needed to advance that investment. Any activities within EBFP selected countries (South Africa, Brazil, Ecuador and Guatemala), including technical assistance and related services, would be coordinated between the two GEF-funded programs. However, given the size of the countries, we consider the likelihood of overlap to be small. Nonetheless, the two teams jointly share the responsibility to make sure that no double-dipping is occurring with respect to funds, and in addition, that the types of projects being pursued are complimentary in nature.

It is also important to note that one of E+Co's eight investment guidelines is the "But For" principle: Is the intervention by an entity such as E+Co *(and the use of REEF-II funds)* necessary to advance the enterprise? "But for" the participation of E+Co, would the project proceed? What this means is that in those rare occasions where there might be overlapping interest in a particular investment, E+Co would always prefer to have a financial institution make the investment. Thus, allowing E+Co to use its investment capital in a project that is less likely to receive funding from more traditional investment sources.

II. *Why we believe that smaller and more risky enterprise investments would be successful, if the larger project under the original REEF portfolio were not. There was also concern regarding high transaction costs for smaller projects.*

We believe that there is a large need for support and financing of enterprise type deals, and that the GEF funds were intended to support such investments in the original REEF. Additionally, E+Co has a potential pipeline that indicates such a need. We are in agreement that these smaller projects require a lot more "hand-holding" and proximity to customer than some of the larger deals. As a result transaction costs may be on the higher side, but without this, the success of these smaller projects would be jeopardized. One way to insure lower costs while maintaining close contact with sponsors is through the use of external fund managers, like E+Co, with local presence in the countries of operation. We have reviewed the local presence that E+Co has, and have also discussed with the company their strategy for developing these projects. E+Co has demonstrated that it is possible to develop a successful pipeline of enterprise type projects in the renewables area with proper use of technical assistance and in-country supervision. REEF-II would therefore include a greater portion of grant funds for TA activities which we believe is in line with GEF lessons learned from other initiatives. E+Co has also supported a system of performance linked financing, to be provided in tranches during the implementation of REEF-II.

With respect to the lack of success of larger projects in the original REEF, the issue had more to do with unrealistic return expectations and focus solely on equity or quasi-equity instruments, as well as the unwouldingness of sponsors to invest in the sector since the late 1990s. The smaller enterprise deals do in fact need GEF support more than ever before as a result of the major players pulling out. Additionally, the return expectations for the enterprise investments are recognized to be lower, an expectation that was also set forth in the original GEF approved REEF project concept. We believe that these lower expectations are attainable.

Local Field Presence: We provide below a brief on the local presence of E+Co:

The combination of enterprise development services (EDS) and capital is the cornerstone of E+Co's enterprise-centered model. Over it's ten-year history, E+Co has implemented a management structure that places its EDS providers close to the customer, which is the enterprise. E+Co has regional offices in San Jose, Costa Rica, serving Central America and the Caribbean, and in Centurion, South Africa, which manages the E+Co Africa program. A regional office has been established in Bangkok (moved from Katmandu, Nepal). Local offices exist in Brazil and Bolivia. All pipeline development, enterprise development services, due diligence and asset management is conducted through these local offices. E+Co has established relationships with local counsel in each country in which it invests. This is costly for the first investment, but is part of E+Co's permanent infrastructure. Local counsel and local partners serve as E+Co's entry point to the regulatory and permitting process. Partnerships with development organizations like BUN-CA (Biomass Users Network-Central America) and KITE (Kumasi Institute of Technology and Environment, Ghana) assist as necessary in confirming policy and regulatory issues related to the enterprise investments. E+Co firmly follows the SME investment best practice of being locally grounded.

III. More clarity was sought on the level of co-financing for the projects to be developed by E+Co

Getting upfront co-financing commitments is difficult in the private sector in general and is especially difficult when dealing with smaller sized potential sponsors. It is also pertinent to note that the proposed REEF-II portfolio is in "early stage" investments where significant amount of development activity may have to be undertaken before a project is ready to be financed. Consequently, co-financing commitments from external entities would likely materialize only after some initial due diligence and project structuring has been completed. However, E+Co has several co-financing windows within its organizational structure that could potentially benefit REEF-II investments until additional external co-financiers have been identified. E+Co currently manages three investment facilities for the United Nations Foundation / UNEP. These facilities represent more than US$3 million of investment capital for Brazil, China and 5 target countries in Africa. In addition, the Multilateral Investment Fund (MIF) has awarded E+Co the role of fund manager for a US$20 million debt facility for Central American renewable energy and energy efficiency investments. These vehicles for co-financing exist today within E+Co's organizational structure. In addition to these existing co-financing windows, and based on their 10 years of experience, E+Co believes that an overall portfolio leverage target of 6 to 1 is achievable, though individual projects may have a higher or lower leverage. It is also germane to note that these issues have been discussed internally and with GEF representatives at some length previously.

ANNEX 6

REEF II
PROJECT OBJECTIVES, BENEFITS, BARRIERS ADDRESSED and RATIONALE
and
GLOBAL ENVIRONMENTAL INCREMENTAL COSTS and BENEFITS

A. PROJECT OBJECTIVES, BENEFITS, BARRIERS ADDRESSED, AND RATIONALE (This Annex is Prepared by E+Co., and reflects their strategy and objectives, worldwide)

1. Objectives

The objectives of E+Co's business plan and the REEF II project as an enabling *element* of that multi-part business plan are:

1. **To build and grow small and medium sized enterprises as effective channels of distribution of modern energy products and services to un-served and under-served households, businesses and communities in developing countries.**
2. **To build and grow specialized and focused intermediary organizations, regional funds and professionals providing support services and capital to small and medium sized businesses supplying modern energy products and services.**
3. **To offer an efficient menu of support services, tools, capital, co-ordination and quality control to enterprises (entrepreneurs), specialized intermediary organizations, financial institutions and government (professionals).**
4. **To grow the application of the enterprise-centered approach of services and (seed and growth) capital.**

This REEF II project will contribute to achieving these objectives by

1. Increasing the flow of seed capital to small and medium sized clean energy enterprises in developing countries;
2. Facilitating the availability of later stage "growth capital";
3. Acting as a catalyst and "market change agent" through its empowerment of E+Co's 5- year $84 million capital plan; and
4. Supporting the advisory, management and transaction costs that deliver not only modest return financial transaction but increase the capacity and efficiency of organizations and individuals to carry on future transaction.

2. Benefits

The combination of enterprise development support services and early stage seed capital has proved effective at stimulating the clean energy SME sector in many developing countries. With an experience base of more than 110 investments in more than 30 countries, it has been shown that *energy through enterprise* seed financing and services can deliver "triple bottom line" returns on investment, including direct returns (financial), indirect returns (energy access, job creation, environmental improvement) and induced returns (economic development).

2.1 Financial Benefits

(Through *May 2004*) – Returns: Investing at the seed capital stage has been shown to produce weighted average returns of between 5.1% (equity) and 7.4% (debt) on an internal rate of return basis[22]. This calculation is based on an analysis and projection of 87 seed capital investments made by E+Co between January 1998 and May 2004, taking into account the following: (1) average investment of $101,000 in a portfolio of $8.8 million; (2) 12% write-offs, for slightly more than $1 million; (3) excludes the cost of enterprise development support services, a large portion of which is recovered through contract revenues, fees and grants rather than through the investments (such as the TA/Capacity Building support proposed within REEF-II); (4) includes 11 fully repaid loans, totaling $1.4 million with a weighted average return of 9.8%.[23] This seed capital investment has resulted in more than $86 million of capital investment *by others*.

(Preliminary and More Detailed Results through *October 8, 2004*) – Seed Capital invested of $11.5 million has been matched by $12.6 million of entrepreneur investment and has leveraged $107.8 million from third parties over the short and intermediate term, for a total combined financial impact of $132 million. The potential total capital amount stimulated over the long term is estimated at almost $265 million (that is, an additional $133 million above the short and intermediate term combined impact of $132 million). This (limited) analysis indicates that on a portfolio basis, $1 of seed capital leverages $10.50 of short and intermediate term capital and an additional $10.50 over the long term.

Ratio of Seed Capital to Entrepreneur and Other Short and Intermediate term Capital to Other Long-term Capital equals <u>1 to 1.1 + 9.4 to 10.5</u>

2.2 Non-Financial Benefits

(Results through *October 8, 2004*) – The *portfolio* of 87 investments ($11.5 million) has produced a series of benefits worthy of further analysis. These include:

- 352 GWH of clean electricity
- 353,000 households (1.8 million people) served with modern energy
- Almost $6 million of improved income and over 1300 jobs created
- Over 500 entrepreneurs and 100 financial institutions and NGOs trained
- 478,000 tonnes of CO_2e avoided annually (life cycle value of almost $42 million)
- 33,600 households provided 39 million liters of clean water
- 4 million liters of kerosene, almost 32,000 bbl of oil and 45 million kg of firewood displaced
- Fourteen different technologies implemented

Details of the preliminary "triple bottom line" results through October 8, 2004 are available in "Triple Bottom Line Impact: Monitoring and Evaluation", E+Co, October 2004. These are summarized in Annex 8 (Triple Bottom Line Matrix).

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[22] The IRR numbers used by E+Co. differ from ones that IFC has used in its analysis in Annex 3A. Table 2A in that Annex provides the difference in IRR calculation used by IFC and that used by E+Co.

[23] The IFC analysis estimates that realized portfolio returns will be between 0 – 3%. See Annex 2 for details.

3. Rationale for Approach

The proposed project will empower a business plan that addresses the following hurdles: higher transaction costs of such investments; providing greater experience (and confidence in others) with the *energy through enterprise* approach (services, seed and growth capital); and higher risk / return expectations. The proposed project essentially offers a source of capital to further "prove the case" for this model of investing; provides the fund manager with cost and risk sharing capacity; and empowers the fund manager to attract other capital to this important sector (clean energy SMEs).

The rationale is built on the belief that *if* growth and commercial capital oriented investors are convinced of the efficiency of seed capital as part of an investment strategy, they will proceed to either create independent seed capital funds "side by side" with their normal activities or proceed to allocate a portion of a growth or commercial capital fund to a seed finance window.

2. B. GLOBAL ENVIRONMENTAL INCREMENTAL COST AND BENEFITS

1. Financial Leverage Expectations

On a *portfolio basis* (see a.2.1) E+Co expects that each $1 million of seed capital provided to energy SMEs will be matched 1.1 times with entrepreneur capital and 9.4 times with other investors capital, thus creating a 10.5 times "seed capital financial leverage effect". With 25% of REEF II's $14 million dedicated to seed capital, this portion of the proposal could generate $37 million of additional capital in the near and intermediate term.

The balance of capital committed in this proposal to mature, later stage investment ($10.5 million of $14 million) will generate at least 1:1 funding from others and more likely 4:1. Using just 1:1, this portion of capital yields an additional $10.5 million of growth capital in the near and intermediate term. If the 4:1 factor is used then $10.5 will yield $56 million.

Thus $14 million of GEF capital will yield at least $51 million and as much as $93 million.

If the 1:1 longer-term and broader leverage factor is applied this figure rises to $102 to $186 million for a grand total of between 1: 6 and 1: 12 leverage. However, this needs to be adjusted downward to reflect GEF's commitment of not just capital but support funding also, *for a total of $18 million.* With this as the base the leverage effect is between[24] 1: 5 and 1: 10.

2. Greenhouse Gas Benefits – typical project, extrapolated

Based on an average installed cost of $1010 (per E+Co supported LaEsperanza hydroelectric project in Honduras; 13 MW for total cost of $13.089 million) and lifetime CO2e reductions of 37,000 per year, of which the World Bank CDCF will buy 30,000 tones (10 year total of 370,000, or 28,500 per MW/10 years), we can infer that the $102 to $186 million leveraged from REEF-II would equate to the CO2e from projects/enterprises generating between 101MW and 184 MW of renewable energy. This would produce **between 2.9 and 5.2 million tonnes of CO2e over a ten-year period.** This would be achieved at a *gross* cost of between $3.50 and $6.20 per tonne. It is assumed that $14 million will be recovered, through return on investment, which then produces a *net* cost of between $0.73 and $1.30 per tonne. If a "cost of money" of 5%/year is

[24] $102 million less $14 million / $18 million = 1: 4.9 … $186 million less $14 million / $18 million = 1:9.6

added to this net cost figure, (equals $0.63 for each $1.00) then a final, full net cost of $1.20 to $2.12 per tonne results.

3. Non-financial Benefits – Portfolio and Business Plan (E+Co) basis

While it is difficult to foresee the final portfolio mix from this specific project ($18 million total with $14 million of direct investment, 25% at the seed capital stage and 75% to growth capital) and E+Co's $84 million capital plan, it is possible to provide a simplified portfolio result based on A.2.2 and the following assumptions:

- With the catalyst of the GEF REEF II commitment, E+Co succeeds at delivering its $84 million capital investment component of its business plan.
- That $84 million follows the 25%- 75% seed capital to growth capital allocation of REEF II.
- Using the 1:5 to 1:10 ratio, (B.1 above), results in between $420 and $840 million of capital invested.
- If 25% of $84 million is dedicated to seed capital, using the portfolio results (see A.2.2) this means that this *seed capital investment alone* produces more than
    - 640 GWh of clean electricity
    - 3.3 million people served
    - 2300 new jobs and $10.5 million of new income
    - 500,000 tonnes CO2e per year
    - 60 thousand households supplied over 70 million liters of clean water
    - 7 million liters and 80 million kg of firewood displaced.

* * * * *

NOTE on Seed Capital Impact Calculation:
$11.5 million yields:

- *352 GWH of clean electricity (30.6 GWH per $1mm)*
- *353,000 households (1.8 million people) served with modern energy (160,000 people per $1mm)*
- *almost $6 million of improved income and over 1300 jobs created ($500,000 of income and 110 jobs per $1mm)*
- *478,000 tonnes of CO2e avoided annually (life cycle value of almost $42 million) (24,000 tonnes per $1 mm; $3.6 mm of value per $1 mm)*
- *33,600 households provided 39 million liters of clean water (2900 households and 3.4 million liters per million)*
- *4 million liters of kerosene, almost 32,000 bbl of oil and 45 million kg of firewood displaced (per $1 mm = 350,000 liters, 3.9 million kg*

Annex 7: Log Frame for Analysis of REEF-II

	Narrative Summary	Objectively Verifiable Indicators	Means to Verify	Assumptions and Risks
Goal	To improve the quality of life in developing countries by enabling sustainable energy (SE) SMEs that increase access to modern energy for homes and enterprises, reduce GHG emissions, and make local employment opportunities possible.	1. No. of new people receiving clean energy from SE SMEs in the developing countries (target 7.5 million people) 2. Amount of investment made in SE SMEs over a 5 year period (target US$ 84 million in > 200 SMEs, leveraging US$ 900 million of additional co-financing)	Independent verification of data provided by Fund Manager	1. There is enough demand for SE products to support enterprises in this arena, in developing countries 2. The proper enabling regulatory environment exists for dissemination and replication of success stories 3. Financial intermediaries are attracted to and standardize lending to SE SMEs
Purpose	Increasing access to sustainable modern energy options for underserved populations in targeted developing countries[25], through support to small and medium enterprises.	1. The increase in number of SE SMEs in targeted countries (target 44 SE SMEs) 2. Amount of co-financing leveraged for SE SMEs, and for end-user finance in SE (target US$ 70 million in co-financing) 3. Estimated units of energy produced through SE SMEs over the period	Independent M&E verification of data provided by Fund Manager; review of audited financials	1. The training and knowledge transfer to entrepreneurs results in successful business models that can be replicated 2. Investments funded through REEF-II result in healthy SE SMEs (financially, socially, and environmentally) 3. The capacity building requirements for replication fall over time, as knowledge is internalized and disseminated
Output	Employing US$ 16.6 million in (a) investments in sustainable SMEs (US$ 14 million) and (b) capacity building activities (US$ 2.6 million) that result in reduction of GHG emissions.	1. Amounts committed and disbursed to REEF-II investments (target US$ 14 million for committed and 75% of it disbursed) 2. Percentages of REEF II supported SMEs that are operating, receiving growth capital, and are current on debt payments[26] 3. Estimated reduction in emission levels resulting from REEF-II (target 4 million tons of CO2 alleviation over 10 years)	Independent M&E verification of data provided by Fund Manager; review of audited financials from investee companies	1. Managing the logistics of training, deal generation and implementation in a dispersed geography 2. Having sufficient quality transactions with co-financing in the pipeline for timely execution 3. Appropriate disbursement and portfolio management post financial close 4. Appropriate MIS to monitor financial, environmental and social parameters
Activities	1. Workshops and enterprise training in sustainable energy 2. Business plan development assistance for local entrepreneurs 3. Identifying and implementing debt and equity investments in sustainable enterprises in targeted countries 4. Managing a portfolio of investments in sustainable enterprises 5. Setting up appropriate MIS for portfolio management and data collection for further dissemination	1. No. of people trained, and no. of proposals received for evaluation (target 130 people trained, 1300 proposals evaluated) 2. Percentage of projects reviewed that are taken to project approval (target 1:10) 3. Amount of co-financing generated (target US$ 70 million) 4. Average time from proposal received to financial close (target 8 months)	Independent M&E verification of data provided by Fund Manager; review of audited financials from investee companies	1. The workshops will attract sufficient entrepreneurs and potential co-financiers 2. The curriculum will provide the appropriate tools for training of SE SMEs 3. Selection and implementation of projects will be streamlined and timely so as to minimize overheads 4. Portfolio management will be close to the ground and will balance financial discipline with a flexible approach

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[25] The countries targeted under REEF II are: Central America, Brazil and South East Asia (Vietnam, Cambodia, Thailand, Indonesia, Malaysia, Philippines and China)

[26] "Current" debt payment is defined in the document as an average of less than 60 days of outstanding payments. The target for operating, growth capital receiving, current in debt payment REEF-II supported SE SMEs is 75% of the REEF-II investment portfolio

Annex 7A: Role of Task Manager in Managing Risks Outlined in LogFrame:

The Task Manager has reviewed and thought over the risks and assumptions outlined in the last column of the LogFrame matrix. The structure of the project has been designed to mitigate some of these risks. These measures include the following:

- The proposed Fund Manager has an existing Management Information System (MIS) that tracks in detail the characteristics of the market and the progress of projects in the sustainable energy arena, and the same has been reviewed by IFC,
- Clear milestones have been set up at the 2 year mark, in order to provide the appropriate incentive to the Fund Manager, and also to provide the Task Manager with the opportunity to review progress and correct course,
- The targets set up have been extensively discussed with the potential Fund Manager, so that there is no ambiguity on these,
- The process of project approval will be far more simplified than the earlier process followed in the original REEF proposal, so as to facilitate quick decision-making, while at the same time being aware of the project risks,
- The focus of the project, geographically, has been kept to countries where there is a belief that a large market for sustainable energy products exists, and where the Fund Manager has good coverage,
- Independent M&E review will be set up in order to verify progress on the targets and on the data and numbers provided by the Fund Manager.

Besides these means for risk mitigation, the Task Manager will continue to be involved in the initiative, and push for course correction and changes in strategy where these are called for. Particular attention would be given to both the quality and quantity of investments, and the milestones are designed to check both aspects.

Annex 8

Triple Bottom Line Matrix

Financial	Social		Environmental	RE Promotion
Amount of Money E&Co Invested	Amount of Energy Generated using RE	Number of Jobs Created	CO2 Offset	Number of different Technologies Supported
Amount of Money E&Co Leveraged from Entrepreneurs	Number of Households served	Number of Women Owned or co-owned businesses	Reforested Land	Geographic Distribution of RE Technologies
Amount leveraged from 3rd parties	Number of Productive Use Companies	Number of entrepreneurs receiving EDS	Liters of clean water	Number of RE Products Sold
Potential Amount of Growth Capital	Improved Income	Number of Entrepreneurs trained	Firewood/oil displaces	Number of RE Policy Activities
Number of Financial Institutions trained on RE financing	Number of Clean Energy Enterprises Operating	Number of Entrepreneurs Identified	Amount of energy saved from EE Initiatives	Number of Awards Received
Number of Financial Institutions engaged in RE financing	Number of NGOs receiving capacity building for RE EDS and Financing	Number of Manuals Developed in how many languages	Number of Customers installing EE equipment	Number of Articles Published