

ROMANIA
EnergyEfficiency

ProjectAppraisalDocument

EuropeandCentralAsiaRegion
ECSIE

Date: July29,2002 SectorManager/Director : HenkBusz CountryManager/Director : AndrewN.Vorkink ProjectID : P068062 FocalArea: G	TeamLeader : VaradarajanAtur Sector(s): Generalindustryandtradesector(100%) Theme(s): Technologydiffusion(P),Climatechange(P), Pollutionmanagementandenvironmentalhealth(P)
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ProjectFinancingData

[]Loan[]Credit[]X]Grant[]Guarantee[]Other: GEF:

ForLoans/Credits/Others:

Amount(US\$m): 10.0

FinancingPlan(US\$m):Source	Local	Foreign	Total
BORROWER/RECIPIENT	0.00	0.00	0.00
GLOBALENVIRONMENTFACILITY	0.00	10.00	10.00
BORROWINGCOUNTRY'SFIN.INTERMEDIARY/IES	10.00	3.00	13.00
SUB-BORROWER(S)	11.00	0.00	11.00
Total:	21.00	13.00	34.00

Borrower/Recipient: GOVERNMENTOFROMANIA
Responsibleagency : ROMANIANFUNDFORENERGYEFFICIENCY(FREE)
 MinistryofWater,Forests,andEnvironmentalProtection
 Address: 12,LibertatiiBlvd.,70005Bucharest,Romania
 ContactPerson: MihaiCozariuc,GeneralDirector
 Tel: 40-1-312-2599 Fax: 40-1-312-5507 Email:

OtherAgency(ies):
 EuropeandCentralAsiaRegion
 Address: WorldBank,1818,H.St.,NW,WashingtonD.C.
 ContactPerson: EmiliaBattaglini,RegionalGEFCoordinator,
 Tel: (202)4733232 Fax: (202)6140696 Email: ebattaglini@worldbank.org

EstimatedDisbursements (BankFY/US\$m):

FY	2003	2004	2005	2006	2007	2008	2009	2010
Annual	1.70	3.60	3.40	1.20	0.06	0.04		
Cumulative	1.70	5.30	8.70	9.90	9.96	10.00		

Projectimplementationperiod : 2002-2007

A. Project Development Objective

1. Project development objective: (see Annex 1)

The objective of the proposed GEF project is to enable companies in the industrial sector and other energy consumers to adopt and utilize energy-efficient technologies, financed under commercial criteria by the Romanian Energy Efficiency Fund (FREE) and cofinanciers. This would put the economy onto a sustainable path of lower energy intensity and greenhouse gas (GHG) emissions.

2. Key performance indicators: (see Annex 1)

The key performance indicators that will be monitored focus on the project's ability to meet the development objectives and include the following:

Outcome indicators:

- Increase in commercially financed investment in energy efficiency
- Reduction in energy consumption and energy bills from commercially financed investments
- Number of financial sector institutions engaged in energy efficiency financing and their lending activity
- Strong level of energy efficiency investments by end users financed from external sources

Output indicators:

- Gradual increase in the number of projects financed and their associated lending volume
- Gradual increase in the investment volume in energy efficiency measures financed by FREE
- Gradual increase in energy savings resulting from investments financed by FREE
- Improvements in FREE's self-financing ratio (target: 100% in year 4)
- Gradual increase in the number of FREE cofinanciers and associated financing volume

B. Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goals supported by the project: (see Annex 1) Document number: 22180-RO Date of latest CAS discussion : May 22, 2001

The project supports the development objectives of (i) promoting economic growth through enterprise sector reform, particularly better utilization of energy resources, and (ii) protecting and sustainably developing environmental resources. The project would contribute to objective (i) by providing seed capital to a market-oriented financial facility that would offer financing for commercially attractive energy efficiency projects which would reduce production costs and improve competitiveness. The host enterprises targeted would be in the private sector which still experiences difficulties to access Romanian financial markets and faces very stiff collateral requirements. The Fund will fill a financing gap by originating transactions not currently being pursued by the Romanian financial sector, by combining expertise in energy efficiency analysis, structured finance and credit analysis, and by attracting commercial co-financing.

The project would address objective (ii) by financing investments that would reduce energy consumption, and thereby contribute to reduction in air pollution and greenhouse gas emissions. The environmental goals addressed by the project are closely linked to the EU accession standards, which are also set as an important development benchmark in the CAS.

1a. Global Operational strategy/Program objective addressed by the project:

The global environment objective of the project is to improve the knowledge and the availability of mechanisms necessary for financiers and energy consumers to fund viable energy efficiency projects by removing barriers and lowering transaction costs. Performance indicators with respect to this goal include:

- Number of win-win energy efficiency projects and associated investment volume with commercial banks participating in financing with FREE
- Gradual reduction of GHG emissions from participating industries and other clients
- Number of projects identified and presented for funding
- Ratings of understanding by end users and energy efficiency expert trained by FREE of successful, financially attractive energy efficiency measures

Context Within FCCC National Communications

The proposed project will support the Government in meeting its international obligations and has been endorsed by the GEF focal point (see attached copy of approval letter). Romania ratified the Global Climate Change Convention in June 1994, and has since submitted the First and Second National Communications Concerning the National Process of Applying the Provisions of the Framework Convention on Climate Change. The GoR target is to stabilize CO₂ emissions after 2000 at the 1989 level. Romania is (together with the Czech Republic) the largest energy consumer and emitter of greenhouse gases (GHG) in Central and Eastern Europe after Poland. Romania had been fairly autonomous in energy supply, but it is becoming increasingly dependent on imports (currently about 30%). While a national policy on climate change has not yet been finalized, reducing local and global emissions by improving energy efficiency is among the highest priorities. According to the “National Study on Climate Change” (p. 186), energy conservation in industry is the most cost-effective CO₂ mitigation strategy, followed by energy conservation in the transport sector, the development of industrial and urban cogeneration, loss reduction in heat supply networks and energy conservation measures in buildings.

The project is consistent with the objectives of GEF Operational Program (OP) 5, Removal of Barriers to Energy Efficiency and Energy Conservation. Section 5.7 of OP 5 includes support for activities that lead to sustainable “win-win” results that demonstrate local, national, and global benefits through removal of barriers.

2. Main sector issues and Government strategy:

Energy Intensity and Impacts

Romania’s energy intensity (total primary energy supply per 1000 USD Dollar of GDP) and GHG intensity (CO₂ emissions per 1000 USD Dollar of GDP) are among the highest in the region and are about five to ten times higher than in UK, France, Germany, or United States (see Table below, based on 1999 data from the International Energy Agency, <http://www.iea.org/statist/keyworld/keystats.html>). Inefficient energy utilization exists in all sectors of the economy, notably in the industrial sector, which accounts for over 60% of energy consumption, but only 33% of GDP. In large part, such high intensity in Romania is due to aging equipments of antiquated technologies, and is an impediment to improving competitiveness of Romanian industry. Also, Romania’s increasing dependence on imported energy is adversely affecting its trade balance.

Recent studies have estimated that the potential for economically viable savings in industry (ranging from no-cost to low-cost and to high-cost measures) is very high – perhaps about 50% – providing win-win opportunities for the global environment and energy users. Detailed studies also have shown that there are many energy efficiency investment opportunities yielding high financial rates of return and reasonably short payback periods. Opportunities for cost-effective savings of 20-30% of thermal energy use in the residential, commercial and public sectors exist as well.

Table 1.1: Energy and Greenhouse Gas Intensity

TPES: Total Primary Energy Supply

	TPES/GDP	CO2/GDP
Romania	1.2773	3.0361
Poland	0.5948	1.9748
Bulgaria	1.5690	3.7733
Czech Republic	0.7363	2.1105
Slovak Republic	8.8902	0.8780
Hungary	0.4880	1.1164
Croatia	0.4457	1.0399
Russia	1.8653	4.5982
Ukraine	2.1380	0.6563
Denmark	0.1005	0.2669
France	0.1502	0.2129
Germany	0.1295	0.3156
United Kingdom	0.1834	0.4263
United States	0.2643	0.6503

The awareness and demand for improving energy efficiency has been increasing. Private enterprises as well as restructured and/or privatized state enterprises are actively exploring cost reduction and efficiency improvement strategies as a consequence of steep increases in energy prices (gas, electricity and district heat), and with a view to improving competitiveness through energy efficient technologies. The large energy savings potential, underpin the very substantial potential for financially viable energy efficiency investments (see Annex 11). However, actual investments in energy efficiency are dismally low. This is in large part due to the absence of appropriate funding mechanisms, coupled with a lack of expertise in identifying and developing commercially viable projects, which could be capitalized on if the incremental risks involved in developing a proper energy efficiency market could be overcome.

Financing for Energy Efficiency

Financing for energy efficiency is lacking mostly due to barriers described in detail in section B.3.1, which is also a reflection of the immaturity of Romanian financial markets. The current Romanian market for corporate lending is simply not competitive. There is in fact basically no competition for clients, as demand for corporate loans is much greater than supply. Romanian experts quote a total market of US\$3 billion for corporate loans in Romania, less than 10% of GDP, with aggregate banks' asset value less than 30% of the GDP – the lowest in Europe. Most lending is in addition concentrated in a few blue-chip clients and some 85% of the lending of most of the Romanian-based foreign banks is in foreign companies. As a consequence, financing is not available or not viable for most credit-worthy smaller firms in the Romanian market. Available lending mainly consists in working capital loans with a one year or less maturity. These are typically fully or even over-collateralized and available only to established firms, possibly exporters and/or Romanian subsidiaries of foreign companies. As for project finance, it is still nascent in Romania, but is expected to grow as the economy grows towards a market-based one. Currently, project finance is available from foreign banks operating in Romania for projects that offer risk cover at high premiums. Those few companies that have carried out some very

profitable and short-term energy efficiency investments used almost exclusively their own internal funds.

Financial Sector Reforms: Until 1999, Romania's financial sector was mostly state-owned, with state-owned banks accounting for about three quarters of balance sheet stock of the banking system and about 70 percent of total loans. The state-owned banks suffered from years of Government interference, directed lending, and a host of management and institutional weaknesses. By 1998-99, these weaknesses made the situation in the financial sector untenable in face of the economy's overall deterioration. Against this backdrop, the Government launched comprehensive institutional and structural reforms in the sector with the support of PSAL I from the Bank. The reforms were redesigned to move Romania close to a market-based system and eliminate the sector as a source of financing for loss-making SOEs. A core element of the Government's program was privatization and restructuring of the banking system. Bancorex, Romania's largest and most troubled bank, Banca Agricola and two smaller state-owned banks - the Romanian Development Bank and BancPost - have been privatized with direct investment from strategic investors. The restructuring and privatization of the banks was accompanied by a series of other legal, regulatory and institutional reforms and further measures are required to develop a well functioning financial services sector. The Government's main objective in the sector is to bring an end to public sector banking and to ensure that incentives for a competitive and modern financial system are in place, especially as Romania proceeds with negotiations for EU accession, which would be supported under the PSAL-II. The Government also plans measures to strengthen the legal and regulatory framework, enhance banking sector infrastructure (i.e., payments systems, accounting/audit framework, deposit insurance, credit information bureau/credit scoring system), improve the functioning of the Government securities market, develop the capital markets for debt and equity instruments under proper supervision, and develop the Insurance Supervision Commission. When these changes are implemented, the Government will have exited from banking and a fully private financial sector will have emerged.

Filling the Financing Gap: The GoR recognizes that the high energy intensity of the economy is a major impediment to improving the competitiveness of Romanian industry, reducing the negative trade balance, relieving the burden which high heating bills place on the population and local governments, and improving the environment and implementing internationally agreed environmental targets. The GoR also recognizes that the financial sector needs time to evolve from the reforms, after which it could be expected to offer financing for such investments as energy efficiency. Therefore, GoR's strategy is to fill the financing gap for promoting energy efficiency investments on commercial basis, which also brings about a demonstration effect on the financial sector. The proposed project is thus designed as a demonstration project to operate without interfering with the banking sector or with the non-banking financial markets.

Other Measures: The Parliament enacted in December 2000 an energy efficiency law that confirms that efficient use of energy is an integral part of national energy policy, conforming with the Energy Charter Treaty and the principles of sustainable development. As expressed by the energy efficiency law, the national energy efficiency policy is based on the following principles: reduce barriers to promote energy efficiency, promote financing mechanisms, educate energy consumers in more efficient use of energy, promote cooperation between producers, distributors and users of energy, and promote private sector energy service companies. By endorsing energy efficiency, the GoR seeks to decrease the energy intensity of the Romanian economy, introduce new technologies and new energy sources, and reduce the environmental impact of energy production, transport, distribution and consumption.

3. Sector issues to be addressed by the project and strategic choices :

B.3.1 Overcoming Barriers in Energy Efficiency

Despite the large potential for financially viable energy efficiency investments in Romania, only a few of those investments are actually being undertaken. Essentially, the market is not functioning in this area. Although there have been numerous donor-funded technical assistance and technical demonstration projects to improve energy efficiency, these have achieved very few results in terms of increasing investments on the ground. The overarching barrier to energy efficiency investment is a lack of commercial credit for these projects: lending institutions consider both the costs and the risks of lending for energy efficiency at this time to be too high. The recent failure of an EBRD project provides instructive experience. It established a credit line for energy efficiency projects with a Romanian bank that failed to disburse due to a lack of incentives and interest in adequate subproject development.

The following barriers are the major causes of the financing gap. The project will address them and is expected to substantially overcome them.

- **The transaction costs of identifying, developing and financing energy efficiency projects are high.** The development of a sound energy efficiency loan portfolio requires a level of specialization that entails high initial costs. To keep risks at a minimum, banks must develop effective combinations of in-house and advisory expertise on the most attractive elements of this market, the technology and technical trends in energy-using equipment and energy efficient technology, and the most secure and profitable types of financial packaging for energy efficiency investments. Development of personal relationships with enterprises and agencies working on project development also is required, and the development of such expertise requires major upfront expenditures. Those costs are entirely at risk if projects do not materialize. For the domestic Romanian banking sector which is faced with enormous needs to restructure non-performing loans, seek new partners, and establish a viable basis for future operations, the establishment of a small and narrowly focused new line of activities is not a priority. The banks are rightly interested primarily in conservative, traditional lending as a means to regain financial health, such as short-term lending for working capital in financially strong enterprises.
- **The perceived risk of financing energy efficiency projects is high.** Energy efficiency projects are a new type of project to be financed, in that the returns of this investment are based upon operating cost savings and not on increased revenue. Not only is the concept of project finance poorly known in Romania; in addition, energy efficiency project finance is even further from traditional lines of business. Although many profitable opportunities actually do exist, there is a common perception outside of the energy efficiency community that the benefits of these projects are only “social and environmental benefits”, and some people are skeptical about financial profitability. An assortment of small donor-subsidized demonstration projects has at times reinforced this perception. Furthermore, energy efficiency investments do entail certain types of financial risks that other loans may not face. Because energy efficiency projects usually involve an assortment of specialized equipment and materials, and significant design and installation costs, loan securitization presents special challenges and risks, as appraised collateral values of assets purchased with loans are often well below loan amounts. In enterprises that are typically short of cash (even if profitable), there may be danger that savings on energy bills will be diverted to make other payments, rather than loan repayments. Although these risks can be mitigated and managed, this requires special innovation and expertise (and hence, additional upfront costs).
- **A combination of financial and technical skills is necessary to successfully develop energy efficiency projects; institutional combination of these skills is currently not available in**

Romania. Domestic banks are generally unaware of the potential for profitable investments in energy efficiency, lacking information on such opportunities presented in ways banks can properly consider. While there is a wealth of studies on technical and economic potential for energy efficiency, they usually don't focus on the financial environment of the company in which the investments would be carried out and are thus of little use for bank loan officers. A similar lack of being able to combine technical and financial skills can be observed on part of the consumer/enterprise side. In some cases, enterprise staff are unaware of the potential for energy efficiency gains, using different types of technology or equipment. Generally speaking, however, this barrier is not as large in Romania as in some other countries: enterprises and supporting units tend to have strong technical staff who are aware of many of the opportunities. The major barrier is the lack of commercial orientation among technical staff, a widespread lack of understanding of financial packaging or management, and isolation from financial institutions. This is a legacy of the command economy. Unless this barrier is overcome, enterprise technical staff will continue to have difficulty convincing their own management of the financial benefits of energy efficiency investments, let alone skeptical bankers. Finally, making sense of balance sheets and cash flow statements is still a challenging task in former command economies, particularly in still unstable macroeconomic situations.

B.3.2 Strategic Choices

Barrier Removal Strategy

To overcome the barriers above and break the long-standing logjam impeding energy efficiency investments in Romania will require at least three basic things:

- A proven track record of commercially profitable energy efficiency projects, achieved without subsidies to end-users. To convince lenders that a number of risks are only perceived and can be managed, and that initial costs of getting into this specialized business are worth incurring or can be partially avoided due to prior experience, they need to see the results of successful projects.
- Institutional development whereby provision of finance and specialized expertise in the technical appraisal and optimal financial packaging of energy efficiency projects are combined in one institution, providing easy access for enterprises seeking financing for such investments.
- Increased flow of information, training and technical assistance to assist potential clients to identify and prepare commercially attractive energy efficiency projects.

This proposed project is designed to address foremost the first two requirements, through the establishment and operation of a specialized fund (the Romanian Energy Efficiency Fund, or FREE), for which GEF would provide the seed capital. Through a technical assistance component, the project will provide the means for project development, training of partners in project development, and generation and dissemination of information to potential financiers and borrowers about the benefits to be achieved with energy efficiency investments.

The project will closely coordinate with the UNDP-executed GEF project "Capacity Building for GHG Emission Reduction through Energy Efficiency Improvement in Romania," which centers on providing some of the solutions needed in the third item mentioned above. The main focus of the UNDP project is to address needs to provide increased practical information to all participants, and to assist enterprises in identifying and preparing commercially attractive energy efficiency projects. The UNDP project does not address the urgent need to develop an effective mechanism for providing substantial amounts of financing for energy efficiency investment. The proposed Bank/GEF project provides for investment

follow-up to the UNDP/GEF project. During project preparation, UNDP has been represented in the national Working Group to promote such synergy and the UNDP/GEF project is currently being restructured with an increased focus on project development activities covering all sectors, thus improving prospects for a successful collaboration.

Rationale for GEF Support

The current situation in Romania provides an excellent case for a GEF contingent finance investment operation (see Annex 4 for an introduction of the contingent finance concept)—there is both a strong need for a GEF catalytic role, and the operation of the Fund provides exceptionally high leverage for GEF funds. GEF lead participation is critical for the project—without GEF’s involvement in capitalizing the Fund, the project cannot proceed in a reasonable timeframe, based on the history of the last five years and discussions with various IFIs and donors (including IBRD). Perceived high risks and transaction costs involved in supporting energy efficiency investments within the currently undeveloped market continue to cause lenders to stop pursuing other opportunities and agendas. Without GEF involvement, a baseline scenario would include a certain degree of progress, e.g. on capacity building and some investments financed mostly from enterprise internal funds, but meaningful market-based energy efficiency investment will remain suppressed, as the basic problems which have impeded investment in the past remain unsolved. While some enterprises may attempt to seek domestic financing for energy efficiency projects, especially if there is special donor support, the very high transaction costs posed by a disinterested banking community stifle even the best intentions—after a point the potential benefits of one or two projects are just not worth the extraordinary effort.

With GEF support to establish the Fund, both the demonstration value of profitable projects and the institutional means to attain them are expected to expand domestic financial institutional involvement in this market through co-financing agreements. The contingent finance concept also offers exceptional direct GHG reduction value for GEF investment. With successful operation, ultimate costs to the GEF will only include a small technical assistance component (initially estimated at US\$2 million) and the time value of the GEF funds placed in the Fund. Costs per ton of avoided carbon emissions achieved may be under US\$1 (see Annex 4). After successful implementation of the Energy Efficiency project, remaining GEF funds would be available for use in other priority GHG reduction efforts in Romania.

In its initial phase, the Fund is expected to concentrate on financing low-risk, win-win projects in commercially viable companies in the industrial sector. In later phases, with more experience, the Fund is expected to expand its portfolio to other sectors such as heating infrastructure or public buildings where payback times tend to be somewhat higher.

The Romanian experience is expected to be replicable in other countries of the region where a similar potential for energy savings and GHG emission reduction through increased investments in energy efficiency exists and where only scant domestic commercial financing for energy efficiency is available for similar reasons as in Romania. Examples are Bulgaria, Slovakia, Ukraine, and Russia.

C. Project Description Summary

1. Project components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

GEF financing of US\$10 million has been approved under Operational Program 5 to support the establishment and operation of an Energy Efficiency Project Development and Financing Facility. This

facility will be operated under the Romanian Energy Efficiency Fund (FREE or the Fund) that has been set up as an independent, autonomous legal entity in a private-public partnership. GEF funds will be used to capitalize the Fund and partially defray initial transaction costs.

Although the funding will initially come mostly from GEF (public funds), it is important that FREE be independent and separate from any government agency. The Fund is overseen by a Board of Administration (BoA) consisting of members from both public and private sectors. FREE is administered by a small professional management team, headed by an Executive Director, and including a Financial Controller. FREE will enter into a performance contract with a professional fund management firm which will manage the investment aspects of the Fund in a commercial manner, in charge of identifying, developing together with clients and financially structuring sub-projects to finance to assure a sound portfolio in terms of sectors, risks and terms. The Fund seeks to make a profit, with investment financing to clients on commercial terms. GEF resources would revolve, and the Fund is designed to be self-sustaining after an initial period of three years. GEF funds would not be returned and Romania would be allowed to use funds remaining at the end of the project for other GHG emission reductions and related activities.

Active partnerships with commercial financing institutions, leasing companies and energy service companies (ESCOs) will be strongly encouraged. In addition to financial services, the Fund would offer its clients expertise in energy efficiency to support them in project development and financial packaging. Technical assistance from the GEF contribution and donor funds will provide support for the latter.

Commercial Co-financing

The initial capital for the fund will be provided by GEF. The project is, however, designed to attract a substantial amount of commercial co-financing. Based on discussions with potential co-financiers (foreign banks with Romanian branches, Romanian Banks, multilateral agencies and private foreign capital sources) the Project design is very flexible and allows for both parallel and direct co-financing arrangements.

- In a parallel arrangement, each co-financier retains control over his own funds and coordinates with the fund manager in the following ways: sharing the deal flow; sharing due diligence, consultants and structuring concepts; and harmonizing the terms of financing among different financing sources, so that the clients sign only one financing contract and interfaces with a single point of contact, namely the Fund Manager.
- In an indirect fund management arrangement, the co-financier would instead establish a dedicated account over which the Fund Manager would have control (but not ownership). In this case, the Fund Manager is empowered to make disbursements from the account for any transaction approved by the Fund Manager (within the context of the Fund Management Agreement between the co-financier and the Fund Manager) with or without the express consent of the co-financier.

Under either arrangement, the Fund could take subordinated positions, pay a small commitment fee, offer guarantees, etc., especially in the beginning stages of the implementation, to provide incentives for co-financiers. Since GEF funds and co-financiers' funds will not be commingled, procurement and disbursements under the project would not be influenced by co-financing arrangements. Further, all co-financing agreements would be subject to review and approval by the Bank.

Co-financing Prospects

Several commercial banks have indicated that they are interested in undertaking parallel commercial lending with FREE, with FREE's role seen as arranging the parallel commercial financing and

coordinating the transaction (and in some cases originating the deals). Several of those banks have provided non-binding letters of interest. However, it may be possible to have a direct fund management arrangement with certain foreign capital sources due to the diseconomies those foreign sources may have in working on individual transactions (unless they have a local implementing agency). The Black Sea Trade and Development Bank (BSTDB) has confirmed its interest to evaluate a more structured co-financing arrangement after the first year of FREE operation, covering an amount of at least US\$3 million. The financial instrument could be 3-5 years senior lending to a financial intermediary, or an offshore vehicle jointly with other co-financiers, or BSTDB could work through existing partners in Romania such as SEA For Banca Romanaesca.

Several key factors weigh heavily on the success of the co-financing, namely:

- Degree to which the co-financiers believe the Fund Manager will have autonomy to operate the fund in a purely commercial manner, free from political interference from GoR, FREE and its Board;
- Quality and credibility of Fund Managers selected;
- Perception by co-financiers that there is a viable demand for financing for energy efficiency projects that meet the eligibility criteria of FREE, while also providing an attractive risk and financial return profile to the co-financiers.

The Project design and the procurement process for recruitment of the Fund Manager address the concerns of co-financiers. They are expected to join when the first successful deals have been concluded. Hence the implementation of the Project would have to commence through GEF financing initially. From the perspective of financial sustainability of the Project, the financial analysis (see annex 4) shows that this is not adversely affected by the absence of co-financing because income to FREE from co-financing would constitute only a small share of overall income.

Project Components

Investment Financing (US\$8 million)

Loans for Investments: Loans will be made on a commercial basis to creditworthy customers from this fund that will revolve with interest and principal payments flowing back into it for additional loans. Borrowers who have good growth prospects will be targeted and where the energy savings from the investments would generate positive cash flows, would be partially used to repay the loans. Loans will be made in US dollars or in dollar-denominated local currency; repayments would also be made in dollar-denominated local currency. The client would thus bear the exchange rate risk.

In the first phase, the Fund will focus primarily on financing projects within restructured and/or privatized industries, which can establish basic creditworthiness. Eligible projects would be limited to those meeting certain criteria to minimize risk and maximize the potential for success. Guidelines for eligible projects are summarized as follows:

- The projects and/or the Fund's financial support are expected to be in the range of US\$100,000 to US\$1,000,000. Projects outside the range are not necessarily excluded; however, financing for projects with large financial contribution from the Fund would have to ensure adequate risk-coverage, including sharing of risks with commercial cofinanciers.
- A well diversified portfolio of projects to assure a balanced risk-return to the Fund.
- Project to have a relatively short payback time (generally under three to four years).
- At least 50% of each project's benefit has to come from energy savings (e.g., processor capacity improvements that have ancillary energy savings benefits are not eligible); and,
- The technology must be well proven in the proposed application to avoid technological risk.

The main energy efficiency technologies that meet these criteria are burners and boilers, variable speed drives, condensers for power factor improvement, compressors, controls, steam traps.

Other Types of Financing: Project financial support may include debt financing, equipment leasing, payment for services, and/or various combinations of these. The Fund is designed to be flexible both in terms of product mix and terms such that the Fund Manager can offer the financial products which the evolving market demands. It is currently not expected that the facility would offer partial credit guarantees. A partial credit guarantee would be appropriate if the financial sector would refrain from lending for energy efficiency due to a high default risk which is not the issue in Romania. Equity is another important part of the overall menu of financing instruments to further energy efficiency. Convertible, mezzanine and equity investments provided by the Fund should follow at a later stage, when sufficient debt investments have taken place to assure revolution of funds, and only if market conditions require it and when exit is feasible.

Fund Operation: FREE's financial transactions would start up slowly in the initial years and would most likely not be sufficient to generate a fee income covering the setup costs of FREE initially. As experience is gained, the number of projects can be increased sufficiently, achieving self-financing of FREE after about three years. Analysis during project preparation has shown that the project will need to have an implementation period of at least eight years to be able to signal a sustainable operation. With a positive external environment, the most likely outcome would be that almost all the initial seed capital would be returned to the Romanian government for use in other projects dedicated to the GHG reduction agenda.

The actual investment implemented under the project will be a multiple of the initial capitalization. The Fund will revolve, and the interest payments and principal repayments will be used for new loans. It is expected that an investment of more than US\$63 million will be financed during FREE's expected duration of 8 years. This amount will have been triggered by GEF seed capital of US\$8 million and other funds, including a minimum 20% contribution to project costs by the borrowers and commercial co-financing of about US\$13 million.

Leveraging of GEF Funds: The project is being developed in the spirit of "contingent finance" as a GEF financing modality (see Annex 4), and might be considered as a pilot project in the World Bank's execution of new contingent finance modalities: Aside from a small component of the projects supporting capacity building and above-standard market development costs, GEF resources for investments would be on-lent to end-users at commercial rates for regular medium-term investment loans. In essence, the Fund would buy down current perceived risks and transaction costs to allow lending at regular commercial rates. Over time, the need for this "buy-down" should be reduced, allowing self-sustaining support through the market. If implementation proceeds as planned, GEF investment resources would be retained through the remittances of the loans (or perhaps grow), for allocation to other GHG reduction purposes at the end of the project. Preliminary thoughts discussed with the Romanian counterparts on the project exit strategy for the GEF are to withdraw or sell the GEF stake in the Fund, once a series of criteria indicating success have been met, and for the GoR to use those funds for other priority GHG reduction efforts in Romania. Agreements about those uses would be reached in negotiations between World Bank, GEF, and the GoR, and will be specified in the implementation agreement between the World Bank and the Fund.

GEF resources will be very highly leveraged. Leveraged financing includes, in particular, the growing financial resources provided by the largely private-sector enterprises through their repayments of the enterprise loans. In essence, for performing loans, enterprises will have paid 100% of the investment

costs when the loans are repaid, and the Fund will have paid no net investment resources. The amount of financing for energy efficiency purposes also will be increased through the co-financing agreements with other financiers.

It should be noted, however, that the contingent finance arrangements of this project are expected to bring exceptionally high leverage for GEF funds even if participation of other financiers is small or non-existent at project inception.

Recycling of funds: FREE would maintain all funds returned to it, including interest and other incomes from investments, in a revolving fund account which would also be used for financing eligible projects. All such re-use would be subject to the same criteria as applicable to the subprojects financed from the GEF funds under the project and would be governed by all provisions of the grant and implementation agreements.

Technical Assistance (US\$2 million). This component covers three broad areas:

- Capacity building part includes activities in initial project development, workshops and seminars for partners and clients, training for fund manager and partners in energy efficiency financing techniques, and monitoring and evaluation (estimated cost \$500,000);
- Fund management part includes retainer fees of the Fund Manager for the first three years (estimated cost \$900,000); and
- FREE administration part includes its set-up and running costs during the first four years (estimated cost \$600,000).

Capacity Building: The first category of TA covers tasks directed mostly towards potential clients and partners of FREE to enable the development of successful investment projects and strengthen the necessary partners of the fund in providing essential services and generating and disseminating information to potential financiers and borrowers about the benefits to be achieved with energy efficiency investments. It is in this TA category that the project will actively collaborate with several other organizations (see below). More specifically, TA is required in the following areas:

- *Project development* : During the first three years, energy audits and feasibility studies will have to be carried out to develop bankable proposals that have good chance to be financed by the Fund. For the first projects, the Fund may cover the total cost of the proposal; very soon however the clients will have to contribute to the development, with their share of the cost rolled into the loan amount (estimated cost of US\$150,000).
- *Workshops/Seminars:* In order to support project development, partners of the Fund (consultants, ESCOs and other aggregators) are retrained in the know-how to develop proposals targeted at the requirements of the Fund and potential clients have to be educated through outreach activities about the benefits of energy efficiency investments and the procedures of the fund. The material for these two kinds of activities has to be developed on the basis of success stories and development of training and promotional materials. It is expected that at about midpoint of the project an international seminar on the FREE experience and replication potential would be organized (estimated cost of US\$60,000).
- *Technical capacity building* and development of alternative deal structures for energy efficiency investment for both the Fund Manager and selected partners such as ESCOs and Business Advisory Centers. It is expected that the delivery of these new deal structures would also need increased support (estimated cost of US\$90,000).
- *Monitoring and Evaluation* (M&E) activities are paramount for the success of the project. Since it is expected that a large number of projects will be implemented over the lifetime of the project,

M&E efforts will have vary over time in their intensity. In the beginning of the project monitoring of project implementation and verification of energy savings and CO2 emissions, including reporting to GEF, will be intense. For the first projects, and those that will test investments in new sectors, different technologies, or other innovations, a verification of the actual savings will take place. For projects that are replicating previous projects, a short M&E form will be developed. During the first few months of project implementation, an M&E methodology and an implementation plan will be developed. The M&E information will provide the basis for the development of success stories to be used, e.g., in the outreach activities (estimated cost of US\$200,000).

Fund Management: The second part of the TA covers the retainer fee for the Fund Manager during the first three years. This fee is intended to cover all costs of the Fund Manager, including deal origination, due diligence and selection, contract finalization, portfolio management, etc., related to the Fund as well as exploring and concluding co-financing arrangements. The TA will cover this fee during the first three years of the contract and the Fund will cover such fees thereafter from its own income when the Fund is expected to become self-financing. The performance contract of the Fund Manager would be designed to provide the incentive to realize self-financing targets through actively seeking to place funds in investment projects; at the same time, the success fee payable on net asset value of the Fund at the end of five years would balance the risk-return for the portfolio and ensure that the long-term sustainability of the project is actively pursued by the Fund Manager.

FREE Administration: The third part of the TA covers FREE's administrative costs, which includes set-up costs and running costs. These set-up costs cover the initial infrastructure (facilities, computers, communication, etc.) and the running costs cover the salaries of the staff of FREE, costs of the BoA and the investment committee, communications costs, transportation costs of key staff and members of BoA, logistics, etc. The TA will finance FREE's administrative costs fully during the first year and on a declining proportion basis over the next three years. Accordingly, FREE would be expected to cover gradually increasing portions of its annual operating budget from its own income. The annual limits proposed for covering these costs by the TA are 100%, 90%, 75% and 50%, respectively, over the four years.

Donor Support for TA

Donor support is most likely to come in the form of tied or in-kind contributions for capacity building activities. Discussions with UNDP/GEF and EcoLink have indicated a firm commitment of these two organizations in collaborating with FREE in pipeline development, training and dissemination activities within-kind investment. Other potential donors, particularly USAID and GTZ have both indicated support in project development activities under their existing TA activities focused on Romania. In addition, there are also reasonably good prospects of receiving some TA funds from CIDA and from EU Phare in the next two years, and from DFID in the outer years. The exact nature and scope of such TA collaboration would have to be defined as and when specific donor support become available, but it is unlikely that such arrangements could be firm-ed-up before start of the Project. The Project thus has to rely initially on GEF funds. As and when donor funds become available, the GEFTA funds would correspondingly be reallocated to the Fund's seed capital for investment financing.

Component	Indicative Costs (US\$M)	% of Total	Bank financing (US\$M)	% of Bank financing	GEF financing (US\$M)	% of GEF financing
Investment Financing	32.00	94.1	0.00	0.0	8.00	80.0
Technical Assistance: Capacity Building Fund Management FREE Administration	2.00	5.9	0.00	0.0	2.00	20.0
Total Project Costs	34.00	100.0	0.00	0.0	10.00	100.0
	0.00	0.0	0.00	0.0	0.00	0.0
Total Financing Required	34.00	100.0	0.00	0.0	10.00	100.0

2. Key policy and institutional reform supported by the project:

None; the project is expected to be implemented successfully within the current Romanian policy and institutional environment. The project would support the implementation of the energy efficiency law, which requires large energy users to develop energy efficiency programs to reduce their energy intensity, by making available a source of funding for energy efficiency investments by energy users.

3. Benefits and target population:

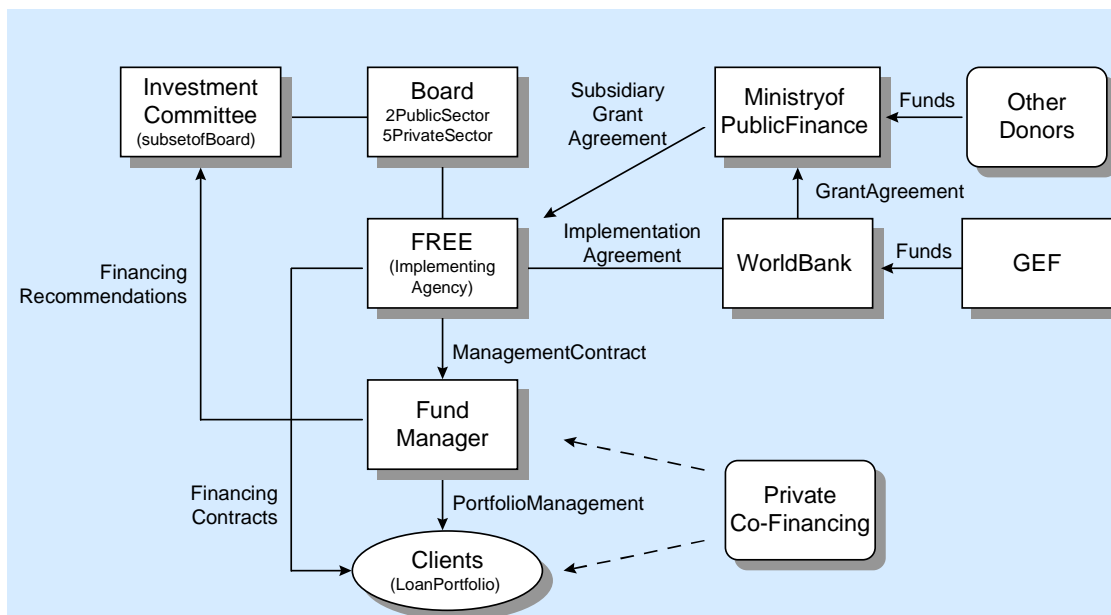
The project benefits include energy savings and related savings in energy bills and improvements in air quality. The project beneficiaries are foremost the clients of the Fund who implement investment measures to reduce energy consumption, ESCO companies who serve them and suppliers of equipment through increased sales. In the first phase of the project, FREE clients will be companies in the industrial and commercial sectors, which would also benefit from greater productivity and improved competitiveness. In the second phase of the project it is expected that the building and public sectors will be ready to apply for commercial credit and finance projects that would benefit also the general population by reducing the cost of basic infrastructure services and improving comfort. The Fund Manager as well as co-financiers would participate in the successful Fund operation through higher earnings.

4. Institutional and implementation arrangements:

Implementation Arrangements

The project beneficiary is a newly founded entity, the Romanian Energy Efficiency Fund (FREE). It has been set up through Emergency Ordinance No. 124 of October 8th, 2001 (published in Official Gazette Nr. 644 on October 15th, 2001). FREE is an independent, autonomous legal entity, specialized in financing energy efficiency investments in Romania on a commercial basis. FREE will be the final recipient of the GEF grant through the Ministry of Public Finance on the basis of a subsidiary grant agreement and an implementation agreement with the Bank.

FREE has a Board of Administration (BoA) of seven persons, with representation from both public and private sectors. The two public sector representatives have been nominated by the Ministry of Industry and Resources (MoIR) and by the Ministry of Water and Environmental Protection (MoWEP). The five members from the private sector include two individuals with strong financial background. The BoA has been constituted and has started to carry out its functions.



FREE is administered by a small professional management team, headed by an Executive Director. Both the Executive Director and the Financial Controller have been selected and confirmed by the BoA. An office manager will complete the team after effectiveness. The Executive Director and staff will carry out the project implementation and the non-commercial aspects of the project, such as organizing monitoring and evaluation of project results and dissemination. Part of the GEFTA grant components will be used for these tasks. The Executive Director will be in charge of selecting and supervising consultants and related activities, including attracting additional donor or co-financing to the project. The Financial controller will be responsible for all financial management aspects of the project in accordance with the Bank's standards.

FREE will be assisted by a separate professional Fund Manager for all investment activities and portfolio management. The Fund Manager develops clients and projects, screens and evaluates them, undertakes the technical, financial and credit analysis, and prepares the transaction packages. Project financing proposals are reviewed by an Investment Committee, which is a subcommittee of the Board and consists of three members, two of whom are financial experts. The Board decides by majority vote on investment proposals recommended by the Investment Committee. The commercial aspects of the project will be left to the Fund Manager who will select projects according to the criteria set out in the contract with FREE. It is crucial that the entity in charge of the project portfolio make all decisions in a strictly commercial manner to demonstrate that energy efficiency is a bankable business and to maximize profits. The Fund Manager will also need to generate tangible interest in the financial community to participate with co-financing. The Fund Manager will consist of a small team; it will need to outsource a number of technical and banking services to advisors and consultants to minimize overhead costs. The Fund Manager will be supported from the project development activities under the project.

The Fund Manager would be hired under a five-year contract. The Fund Manager remuneration includes a retainer fee, deal origination or closing fee and a success fee. The retainer fee is partly fixed and partly depends on performance; it would be paid from the TA during the first three years and thereafter from the Fund's income. The deal origination/closing fee would be paid by borrowers, in line with prevailing market norms and practice in Romania. The success fee would be paid from the net asset value of the Fund at the end of the contract period. The performance-based retainer fee includes incentives for

expanding the client base of the Fund, while at the same time ensuring that defaults are minimized (see Annex 12 for details). After year 5, there is an option for FREE to negotiate an additional 3-year contract. In addition to income generated from FREE operations, the Fund Manager would be able to generate income from other co-financing agreements. The Fund Manager would disclose to FREE all income to be received from other sources (clients, co-financiers, etc.) in the performance of his functions under the contract with FREE to preserve transparency. The Fund Manager would be in place by effectiveness of the project.

It is expected that FREE would administer GEF funds for about eight years. According to the financial model developed for the project, this implementation time is insufficient to cover the initial losses of the project and thus signal a successful operation that the private financial sector can then take over (see annex 4). The World Bank project implementation period however would last only 5 years, during which GEF funds would have been fully disbursed. It will be ensured that appropriate monitoring and evaluation of energy efficiency activities continues after project closure and that appropriate funding is set aside during discussions between GOR, GEF and World Bank about the future use of the remaining GEF funds. The exit strategy foresees that GEF funds (minus any contingent grant and the TA component) will be pulled out of the Fund at a time when the success of commercial energy efficiency financing has been demonstrated and private sector has taken over financing for energy efficiency. This would be indicated by the increasing self-financing ratio and positive net asset value of the Fund, based on a turnover of a large number of projects, and participation of the commercial financial sector in co-financing schemes.

The GEF funds will be returned to the GoR for use in other GHG mitigation projects in Romania that are in line with the GEF global objectives, as described in the grant and project implementation agreements. However, there is a non-negligible chance that the Fund will not be successful. This would be indicated by the fact that prospects of becoming self-financing are remote after about three years, meaning that FREE is far from achieving the benchmarks of 20%, 50% and 100% in year 2, 3, 4, respectively. If FREE is far from reaching these benchmarks, the project would be cancelled. The implementation agreement between World Bank and FREE and the management contract between FREE and the Fund Manager would include appropriate clauses to this effect.

Client Interface and Services

FREE is marketing itself as a one-stop shop and client-friendly. Accordingly, its internal procedures will have to be streamlined, in order to provide efficient services, in project development as well as in financial products. The Fund Manager will be the public face of the Fund for the clients, and the FREE administration and investment committee as well as the Board of Administration need to be committed to make the two-tier structure work as smoothly as possible. Co-financing agreements should provide clauses enabling the client to sign only one financing contract and having to deal only with one provider of financial services.

In order to inform clients on services provided by FREE/Fund Manager a coherent communication strategy will be developed and implemented within six months after the Fund Manager's selection. A website for FREE promotion is already in place (www.free.org.ro) and will be improved based on emerging information and stakeholders requirements. The website will provide information enabling potential clients to quickly determine whether they are eligible for FREE services. Through this medium and other more traditional means such as seminars, workshops, trade shows, mass media, etc., the potential clients would be informed on the benefits of energy efficiency investments, eligibility criteria for projects to be financed by FREE, loan conditions (interest rate, grace period, repayment time schedule, collateral, environmental and monitoring requirements), FREE procedures including the time

for an application's assessment, existing organizational already trained in preparing project, training opportunities, and soon.

Selected partners such as professional and employers associations, ESCOs, and Business Advisory Centers have been already contacted and informed on FREE future services. During the initial implementation period of the project, these stakeholders will be trained through workshops and seminars to disseminate the know-how to develop proposal targeted at the requirements of the Fund. The Fund Manager will also work with appropriate partners in the development of techniques to bundle small projects, to provide financing for projects proposed by less credit worthy clients through innovative structuring techniques, etc.

For the first projects, the Fund may cover the total cost of developing bankable project proposals; thereafter, however the clients will have to contribute to the development, with their share of the cost rolled into the loan arrangements.

C.4.1 Financial Management and Procurement

FREE will assume full responsibility for project implementation. It will produce supervision reports and will be responsible for project financial accounting, monitoring and procurement financed under the TA. The Executive Director will be in charge of the day-to-day management of FREE.

Financial Management Aspects (see Annex 6B for detailed review of Financial Management Arrangements)

FREE will be in charge of all the financial management aspects of the Project. All financial management and disbursement procedures will be in accordance with the relevant World Bank guidelines.

During the pre-appraisal mission, it was agreed that FREE will establish and will maintain a project financial management system (FMS) in a format acceptable to the Bank and in accordance with OP/BP 10.02 and the World Bank Financial Management policies and procedures. This will include suitable staffing, an accounting and reporting software system, planning and budgeting, internal control procedures, disbursement mechanisms and auditing arrangements. At the moment the FMS of the Project does not meet the minimum WB financial management requirements; but the Financial Controller is aware of and has agreed to implement the FMS action plans satisfactory to the Bank. Before Board presentation, a World Bank accredited Financial Management Specialist will perform a detailed assessment of the system in accordance with the Bank's OP/BP 10.02 to ensure compliance. Additional actions and steps agreed with the grant recipient to strengthen the system are included in the FMA Action Plan that will be agreed by negotiations.

Financial Accounting and Reporting : FREE will keep separate Project Accounts, by each financing source and by each project component, by each financing agreement and by activity. FREE will prepare quarterly Financial Monitoring Reports (FMRs) for the Project in accordance with formats agreed with the Bank during negotiations. The FMRs will be submitted to the Bank no later than 45 days after the end of each quarter. The first quarterly FMRs will be submitted after the end of the quarter in which disbursements commence, most likely Q4 of 2002, and thus will be due on February 15, 2003.

Audit arrangements : The project annual financial statements will be audited each fiscal year in accordance with Bank guidelines, by independent auditors acceptable to the Bank, based on terms of reference agreed with the Bank. FREE would conclude a contract with selected auditors, satisfactory to the Bank, no later than three months from effectiveness. In order to ensure continuity, the appointment should be made for the whole project period with a clause enabling FREE to break the contract due to poor quality of audit. The independent auditor should be a member of a professional auditing and

accounting body that is acceptable to the Bank, e.g. a member of IFAC. The cost of audit will be financed from the TA during the first three years until FREE becomes self-financing. Copies of the audit reports will be submitted to the Bank within six months after the close of the fiscal year (calendar year). The audit report will cover FREE's Financial Statements, the Project Financial Statements, Special and Project Accounts' Statements, as well as all the Statement of Expenses (SOEs). The audit shall also include a special section on the portfolio and net asset value of FREE's revolving fund account.

The financial management system of the project, including its records and accounts, shall be maintained in accordance with appropriate Romanian regulations and principles that respect International Accounting Standards (IAS) as issued by the International Accounting Standards Committee (IASC). Audits of Project and Financial Statements of FREE will be performed annually for each fiscal year of the life of the project as well as at the completion of the Project in compliance with the International Standard on Auditing (ISA) as issued by the International Federation of Accountants (IFAC).

Procurement Arrangements (see Annex 6, Table A1 for selection methods for consultant services)

The procurement of goods and services of the Bank financed components would be procured in accordance to the Bank procurement guidelines. The project components not financed by the Bank would be procured in accordance with the national regulations or the co-financing institutions procurement regulations. The project elements, their estimated cost and procurement methods are summarized in Tables A and A1 of Annex 6. A procurement plan detailing the packaging and estimated schedule of the major procurement actions is presented in Table D of Annex 6. All other procurement information, including capability of the implementing agency, date for publication of GPN and the Bank's review process is presented in Table C of Annex 6.

The Bank will review, regardless of value, terms of reference, RFPs, evaluation reports and draft contracts of all consultants financed by the Bank. Expenditures under the incremental operating costs category will be reviewed annually.

C.4.2 Disbursement Arrangements

Most of the disbursements are expected to be made from the Special Account due to the small size of payments and the nature of operation (FI). The use of Statement of Expenditures (SOEs) would be allowed as noted herein. The Financial Controller of FREE would be trained in Bank procedures and requirements before start of the Project, including in the preparation of quarterly Project Management Reports. The disbursements under the various categories are described below.

Disbursements towards sub-loans (Fund investments under category 1) will be made against sub-loan agreements approved by FREE's BoA. It is expected that borrowers would contribute at least 20% of the cost of their projects. Disbursements toward Fund Manager retainer fee (category 2) would not be made on the basis of SOEs. Disbursements toward technical assistance and consultancy contracts (category 3) would be made on the basis of SOEs, subject to a threshold of \$50,000 for firms and \$20,000 for individuals. Disbursements toward incremental operating costs of FREE (category 4) would be made against SOEs and the maximum limit each year would be 100% up to December 31, 2003; 90% up to December 31, 2004; 75% up to December 31, 2005 and; 50% up to December 31, 2006. Disbursements are expected to be direct payments from the Bank only in the case where FREE's clients and consultants express preference for this procedure because of nationality of supplier or the size of the contract.

FREE would open a Special Account in a commercial bank acceptable to the World Bank. The authorized allocation and initial deposit into the Special Account would be US\$1.0 million. During the first year, total disbursement toward technical assistance would be about \$650,000 and disbursements toward sub-loans are expected to be about \$1.6 million (against a commitment of US\$2.0 million).

C.4.3 Supervision, Monitoring and Reporting

A significant supervision effort will be required, particularly during the first three years when FREE will establish itself and its operations and coordination with the co-financier would be established. It is expected that about 15 staff-weeks of effort each year for the first three years and about 10 staff-weeks each year thereafter would be required for supervision by the Bank.

Project monitoring and evaluation activities will be carried out under the responsibility of FREE, which will submit quarterly progress reports to the Bank within 45 days of the end of each quarter. Project monitoring would focus on a set of key financial, technical, and institutional data to ensure that the project meets its objectives. The financial information required reflects key issues that need to be addressed to ensure that FREE achieves its self-financing status within a set period. The technical information focuses on the implementation of energy efficiency projects and the extent to which they can be used for dissemination of best practices. The institutional issues concern the effective and successful collaboration of FREE administration, Fund Manager, co-financiers and other project partners.

The Bank would carry out a mid-term review of the project not later than end-2005. In addition to the topics covered under the Project Management Reports, the mid-term review would include an in-depth review of the institutional and financial viability of FREE and the impact it has had on energy efficiency improvements and the transformation of the market for energy efficiency financing. Based on the outcome of the mid-term review, measures would be taken to ensure that the project is either successfully completed or the project is cancelled prematurely if it is deemed a failure.

An Implementation Completion Report (ICR) would be prepared by the Bank with inputs from FREE no later than six months after completion of the project. The ICR would evaluate how well the objectives of the project have been met, the overall performance of the project, the performance of FREE and the Fund Manager, and lessons learned. During negotiations, an agreement would be sought regarding the reporting and monitoring requirements of the project.

D. Project Rationale

1. Project alternatives considered and reasons for rejection:

For the energy efficiency financing component, several alternatives were considered by the project team under ESMAP assistance and rejected:

- Energy efficiency fund administered by ARCE, the Romanian Agency for Energy Conservation in the Ministry of Industry and Resources. This had been proposed in one of the first drafts of the energy efficiency law. However, while ARCE has extensive experience in technical evaluation of energy efficiency projects and has good connections to energy consumers through its regional offices, it has very little experience in financial evaluation of projects and potential borrowers and in financial engineering. ARCE has no commercial expertise. In addition, its budget was severely cut in early 2001, as a part of general reductions of public budgets, limiting further its activities, particularly of its regional offices.
- Energy Efficiency credit line administered by a commercial bank. This approach was chosen by EBRD for its Energy Conservation Financing Scheme. However, the Romanian bank had little interest in the project, or incentive to develop this specialized business. Consequently, no loans were made, resulting finally in project cancellation.
- Guarantee fund available for financial intermediaries. In Hungary, an IFC/GEF-backed project using a partial credit guarantee seemed to have catalyzed commercial financing for energy efficiency through ESCOs. In Poland, a similar mechanism was chosen for an IBRD/GEF ESCO project in the building sector. This instrument is most suitable if the banking sector is already engaging in medium-term

lending for investment purposes. In Romania, the banking sector is still being restructured and does not seem to be ready for this kind of credit enhancement operation.

- Supports solely for ESCO activities. In several Eastern European countries, energy service companies (ESCOs) have become active, frequently with financing from multilateral agencies, and some of them seem to be quite successful. In Romania, the ESCO concept is still largely unproven; two ESCOs are recurrently struggling with no or very limited access to financing, and a newly formed third has just received funding from the EBRD, mostly for activities in the district heating sector. Nevertheless, the Fund proposed here will support, work with and provide financing for any ESCOs that are able to develop and implement viable projects, as one promising vehicle for channeling investment financing.
- Direct funding of major EE investments. While some demonstration effect could be expected from extending loans to some Romanian enterprises for well-defined investments in energy efficiency, it would probably not lead to an uptake of market-based energy efficiency financing by the financial sector in Romania. One reason is that companies to be targeted with energy efficiency loans would need to have very sizeable energy consumption and saving potential. These companies exist in Romania, but most of them are still state-owned and need to be restructured and privatized.

Given the above experiences and observations, plus the indications during project preparation from commercial banks in Romania about their lukewarm interest in commercial loan activities for energy efficiency projects and strong reservation to participate as financial intermediaries in the project, the project team proposed to set up a special, independent Fund which would have both financing funds at its direct disposal and direct access to financial and technical energy efficiency expertise.

Without GEF involvement, a baseline scenario would include a certain degree of progress, but meaningful energy efficiency investment will remain stifled, as the basic problems that have impeded investment in the past remain unsolved. The estimates of energy savings under the baseline are based on the level of energy efficiency investments in the past few years, projected into the future, in the absence of the proposed GEF project. Most end users, particularly in the industrial sector, would use their own funds to implement low-cost energy efficiency measures. In addition, the district heating and ESCO financing schemes of the EBRD would allow a limited number of end-users in other sectors to finance basic investments.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned).

Sector/Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
Bank-financed			
Improved power supply efficiency and structural reform in the power sector reform	Power Sector Rehabilitation and Modernization	S	S
Structural reforms in the utility and financial sector	PSALI	S	S
Structural reforms in the financial and energy sectors; privatization of state-owned enterprises	PSALII (negotiated)		
Improved oil and gas E&P, transport and distribution and sector reform	Petroleum Sector Restructuring	S	S
Other development agencies			
Improved efficiency of district heating systems	EBRD: District Heating Rehabilitation Scheme		
Improved efficiency of energy services for the public and municipal sectors	EBRD: ESCO Financing Scheme		
Capacity building for energy efficiency improvement	UNDP/GEF Capacity Building for GHG Emission Reduction through Energy Efficiency Improvement		
Project development to improve energy efficiency of public buildings and district heating systems (to be financed by EBRD)	USAID/SECI Energy Efficiency Demonstration in Constanza		
Project development to improve energy efficiency	USAID/EcoLinks		
Improve operational, financial and energy efficiency in the district heating sector	GTZ		

IP/DORatings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

3. Lessons learned and reflected in the project design:

Project design has drawn extensively on the varied experience with energy efficiency activities in Romania (see D.1), on worldwide experience with energy efficiency funds that was gathered mostly at an ESMAP-sponsored international workshop on energy efficiency funds (see <http://www.worldbank.org/html/fpd/esmap/esmap.html>), and on other international experience with financing of energy efficiency and environmental investments.

In the case of the EBRD credit lines some essential requirements for a successful operation were not

fulfilled: The entity in charge of financing energy efficiency projects needs to be experienced in packaging both the technical and financing aspects of energy efficiency investments into bankable proposals. In particular, it needs to have access to project development funds or to a group of advisors with whom it can establish alliances in order to identify and develop good projects. The agency also needs to have a financial stake in the successful performance of the Fund. All of these elements are part of the design of the proposed project.

Among the most important lessons learned from Energy Efficiency Fund experience worldwide--which is confirmed to a large extent by lessons of experience with Environmental Funds--are the following:

1. Maximize the transparency of procedures; minimize government interference in financing decisions. Establish and operate the Fund as a business, not a technology deployment system; profit-making should be an objective of the Fund.
2. Use existing market players (i.e., banks) for functions (e.g., collections) where possible. In any case, make sure that financial and technical-economic appraisals are of high quality. Due diligence must be performed by professional staff with incentives for good performance.
3. The financing institution needs to be very proactive in the development of a project pipeline. Marketing, particularly to senior management, is a critical step in the success of a Fund. Use third parties such as ESCOs or industrial associations to market and develop projects for the Fund, thus avoiding high transaction costs.
4. Focus on short-term loans for projects with high rates of return. Avoid placing funds in a few large loans; spread the risk through many projects. Fund financing should cover only a portion of the project costs; the borrower should have equity in the project. Lend only to credit-worthy clients; establish high credit-worthiness criteria, which are rigorously enforced. Full collection of interest and principal repayment is an overriding concern.
5. Small projects have high transaction costs. They need to be packaged by partners such as ESCOs, or very simple mechanisms have to be designed which avoid costly audits and feasibility studies, such as a list of standard energy efficiency measures.
6. Monitor thoroughly to ensure the funds were spent on the project, the project was implemented properly and operated as designed; monitoring provides an early warning for any problems.
7. Some experts believe that Energy Efficiency Funds require lower than market interest rates to attract clients and/or some other enhancements for potential customers, such as project development support.

Lessons 1-6 are reflected in the design of this project. The project team however believes that subsidized interest rates are not conducive to the creation of a sustainable market for energy efficiency financing. The intent is to price the financial products on terms that are generally consistent with the nascent corporate finance market in Romania. The proposed Fund will however set itself apart by offering to its potential clients its combined expertise in energy efficiency, structured finance and credit analysis, as well as project development support. Furthermore, it is expected that the Fund will not engage in over-collateralization as most Romanian banks do, but rather structure its financial products in such a way that the cost savings from the energy efficiency investments will result in positive cash flows following loan payments. Commercial banks in Romania will be drawn into the project as commercial co-financiers and as partners of the Fund Manager, carrying out a range of banking services.

4. Indications of borrower and recipient commitment and ownership:

The Government of Romania has acknowledged that improving the efficiency of energy use and, hence, reducing the country's energy intensity, and protecting the environment are critical priorities for attaining sustainable development. The cabinet of ministers requested the World Bank in a letter of October 21, 1999, approved by the Prime Minister, to support the preparation of a GEF-funded energy efficiency project. The GEF Focal Point in the Ministry of Environment requested PDF-B grant and execution of the grant by the World Bank (see Annex 14). As a result of this high-level endorsement, a Working Group was established with participants from the key public agencies involved and from the private sector. Until the establishment of FREE, the Working group met regularly to support national consensus building, review project preparation progress, provide comments and guidance on specific TORs for the consultants, review their recommendations, and ensure finalization of outputs acceptable to the Working Group and the Bank.

The current Government that came to office in January 2001, collaborated with the project preparation team in the structuring of FREE and facilitated its establishment through an Emergency Ordinance, approved by the cabinet in October 2001.

Interest among the public and private sector in the new financing facility for energy efficiency investments is high. During identification and preparation activities there has been wide consultation and high level participation from diverse stakeholders, including government, the private sector, banks, civil society, whose support and commitment are central to the outcome of this project.

5. Value added of Bank and Global support in this project:

The involvement of the Bank and GEF in the project is regarded as essential in overcoming the gridlock in energy efficiency financing in the country. Energy efficiency efforts are at an impasse, and frustration is high among Romanian stakeholders. The lack of an integrated, coherent government policy and leadership has resulted in marginalization of energy efficiency proponents as opposed to a productive team effort. The energy efficiency law, by itself, is not expected to change energy efficiency investment activities in Romania dramatically, since any funding sources proposed in the law are at best uncertain. Donor financing has generated many studies, but funding for investment has been very limited, in overall amounts as well as in sector focus, i.e. energy efficiency improvements in the district heating and public buildings subsectors.

The Bank's stature in Romania, and its expertise in financing innovative energy efficiency projects worldwide are considered as essential to make a difference and get things going in Romania. The current situation in Romania provides an excellent case for a GEF contingent financing investment operation—there is both a strong need for a GEF catalytic role, and the operation of the Fund provides exceptionally high leverage for GEF funds. GEF lead participation is critical for the project; without GEF's involvement in capitalizing the Fund and supporting initial project development, there is no question that neither the Fund nor the project can proceed in a reasonable timeframe, based on the history of the last five years and discussions with various IFIs and donors (including IBRD). Perceived high risks and transaction costs involved in supporting energy efficiency investments within the currently undeveloped market continue to cause lenders to pursue other opportunities and agendas. With GEF support to establish FREE, both the demonstration value of profitable projects and the institutional means to attain them are expected to expand domestic financial institutional involvement in this market, through increasing cooperation with FREE.

E. Summary Project Analysis (Detailed assessments are in the project file, see Annex 8)

1. Economic (see Annex 4):

- Cost benefit NPV=US\$ million; ERR= % (see Annex 4)
- Cost effectiveness
- Incremental Cost
- Other (specify)

FREE has been set up to finance investments in subprojects improving the energy efficiency of equipment. This will lead to reduced energy consumption per unit of output and thus cost savings. The subprojects will be selected by a professional fund manager and will meet the eligibility and development criteria agreed between FREE and the Bank, ensuring that the subprojects are financially viable and technically, commercially, managerially and environmentally sound. Experience with energy efficiency projects in the region and the market analysis carried during project preparations show that these projects typically reach rates of return well above 15%. Since relatively few energy efficiency projects have been financed to date in Romania, it is expected that the Fund will have an ample supply of economically viable projects. The challenge will be to identify the viable clients proposing those projects.

As explained above (see section C.1), the Fund is expected to be the only financing facility available for the foreseeable time to finance energy efficiency projects in the targeted companies. The analysis of corporate lending and the energy efficiency market assessments show that only a small number of certain industries with access to foreign credit (i.e., well-performing Romanian subsidiaries of foreign-owned firms) can secure funds at very favorable terms and conditions to undertake energy efficiency investments in the absence of FREE, and some other industries finance lower cost rapid payback energy efficiency measures from internal sources. Those investments form the baseline against which the results of the GEF project are measured. Projections from the market survey data indicate that baseline investments amount to about \$5.5 million per year, totaling \$44.5 million for the 8-year horizon of FREE's operations. This represents energy savings under the baseline scenario of 107 million GJ of saved energy, or avoided carbon emissions of 1.7 million metric tons. The GEF case (Base Case, assuming no cofinancing) shows a net increase in investment in energy efficiency of \$45.2 million over the baseline scenario. The incremental cost will not be known until the project closes, as it is predicated upon the Final Value of the contingent grant. The final cost of the project is the TA Grant (\$2 million) plus the Final Value of the Contingent Grant (-\$807,000 in the reference case). The total cost of the project in the reference case is \$1.19 million, and the incremental GEF cost per metric ton of carbon avoided is \$0.69 (see Table C in Annex 4).

The Fund requires a large deal flow in order to generate sufficient revenue to recover overhead and operating costs in the first year of the project. Co-financing will allow to defray the losses from the initial years of operation, to mitigate exposure and spread risk over a wider portfolio of loans, to minimize the level of the GEF contingent grant amount and, most importantly, to generate sufficient momentum to ensure sustainability in the market for efficiency lending in Romania.

There is however, a powerful incentive, both for the FREE and for the Fund Manager to attract co-financiers to participate in the financing of energy efficiency projects. This will allow the Fund to mitigate risk from a catastrophic (100% of loan) default and will increase net returns because potential co-financiers would contribute to the transaction costs of making loans by paying fees to the Fund, estimated here at 3.5% of the total co-financed loan, on a project-by-project basis.

A realistic amount of cofinancing that might be forthcoming from interested cofinanciers such as Black Sea Trade and Development Bank or several commercial Romanian banks is estimated at a total of US\$ 13.5 million over 8 years. Assuming that these funds are not available for revolving, they would increase the overall amount of energy efficiency investments by US\$ 16 million. This would lead to increased

energysavingsandcarbonreductionsoverthebaselineof148millionGJand2.3millionmetrictons, respectively. Thecontingentgrantwouldthusbeanegative1.1million,leadingtoincrementalGEFcost ofUS\$0.65permetrictonofcarbonavoided.

2. Financial(seeAnnex4andAnnex5):

NPV=US\$ million;FRR= %(seeAnnex4)

FREEAdministrativeCosts

FREEisanewlyestablishedfinancialintermediary. Itisindependentfromthegovernmentandhas attractedcompetentstaffforitsmanagementandqualifiedpersonstoserveonitsBoA. Achieving self-financingisanimportantoutcome, signaling significant successoftheProject. Self-financingmeans thatFREEwouldbeabletocoveritsoperatingcostsandFundmanagementcostsfromitsoperating revenue. Operatingcostsincludealladministrativeexpensesincludingprojectmanagementcosts, retainerfeesforFundmanager, consultancycostsandanydebtwrite-offs, includingprovisionsasper law. OperatingrevenuesincludeinterestincomeandfeesfromFundfinancialoperations, co-financiers, interestoncashbalanceandanyotherincomeaccruingtotheFundundertheproject. Financialanalysis showsthatFREEwouldstartreceivingincomefromthesecondyearofitsoperation, gradually increasingasinvestments(loans)generateincome. TheanalysisalsoshowsthatFREEcouldbeexpected tobecomeself-financingafteraperiodofthreeyears. TheProjectthusaimstoreachcomplete self-financingduringthefourthyearofoperation. Accordingly, theannualtargetsofself-financingratio tobeachievedbyFREEare: 20% forthesecondyear, 50% forthethirdyearand100% forthefourth year. TheTAfundsfromtheGEFwouldbeexcludedfromtheincomeofFREEforthepurposeof calculatingself-financingratio. Incomeremainingaftermeetingoperatingcostsaretobeutilizedfor investmentsinenergyefficiencythroughtherevolvingfund. SinceFREE'sadministrativecostsrepresent adiscretionaryoverheadafteracertainlevel, theannualoperatingbudgetofFREEwouldbereviewed andapprovedbytheBankandmonitoredthroughquarterlyreviewsinordertoensurethatFREE's overheadsarekeptatminimumpossiblelevels, toensureefficiencyandmaximizethefundsfor investments.

FundManagement

WhileinvestmentswouldprovidetheincometotheFund, itcouldbeaffectedbyeitherlackofdemand ordefault(s)orboth. TheperformancecontractoftheFundManagerwouldbedesignedtoprovidethe incentivetorealizeself-financingtargetsthroughactivelyseekingtoplacefundsininvestmentprojects; atthesametime, thesuccessfeepayableonnetassetvalueoftheFundattheendofthecontractwould balancetherisk-returnfortheportfolioandensurethatthelong-termsustainabilityoftheprojectis preservedbytheFundManager. Majorityoffundsinthefinancialmarketsaroundtheworldare predominantly-equitytype, supportedbyventurecapital, whichhavehighupsidepotentialforboth investorsandFundmanagers. Predominantly-debtfundsarenotcommon, andfundsdedicatedfor environmenthavebeguntoappearonlyrecently. InordertoattractqualifiedFundManagers, appropriate incentivestructureincludingretainerandsuccessfeewouldbeproposedunderaperformancebased contract.

Thefinancialmodelincorporatestheresultsofthemarketassessment, theinstitutionalset-upofFREE, theexpectedoperatingcostsoftheFREEadministrationandthefundmanager, theexpected co-financingbasedonextensivediscussionswithco-financiers, etc. Therresults(for detailsseeAnnex4) indicatethatthekeyvariablesthathavemostimpactontheFund'stotalreturnarethecreditspreads, defaultratesandnumberofloansmade. Highinitialdisbursementsgreatlyimprovefundperformance andquickensustainability, thusdevoting sufficientTAto developmentoftheinitialpipelineisofgreat

importance.

Fiscal Impact:

The project does not have a negative impact since FREE is independent from the Government and does not rely on any budgetary support. It is expected that the project will have an indirect positive impact through its barrier-reducing activities and market-transformation character. The project will not displace any financing sources but instead fill a gap (see Section B and Annex 4). Enabling a large number of enterprises and other end users of energy to invest in energy efficiency projects will increase productivity and competitiveness. The ensuing positive fiscal impacts include higher import taxes, and eventually increased income and profit taxes. The investment in energy-saving technologies will contribute to a reduced demand for energy imports and thus a lower deficit in the current account balance.

3. Technical:

Sufficient demand for financing from FREE is a key factor for the success of the Project. Accordingly, intensive market survey work was carried out during project preparation. Annex 11 summarizes the estimated market potential for energy efficiency investment in Romania, with particular emphasis on the industrial sector that has both good economic/technical potential, and prospects to have creditworthy customers. The potential market for commercially viable energy efficiency financing has been conservatively estimated at about US\$210 million. Due to the current economic situation, it is expected that for the first years of FREE operation, only projects in creditworthy industrial companies will be financed, though the overall market for viable projects should grow dramatically over the life of the project, including also the building sector and municipal services.

The projects to be financed should have the following characteristics: relatively short payback time, investment to be in the range of US\$100,000 to \$1,000,000, at least 50% of each project's benefit should come from energy savings, and the technology must be well proven in the proposed application to avoid all technological risk. The main energy efficiency technologies that meet these criteria are burners and boilers, variable speed drives, condensers for power factor improvement, compressors, controls, steam traps. Since some of these technologies are fairly new to many applications in Romania, their installation and operation will still need the development of special skills in the engineering trade in Romania. Except for projects carried out under performance contracts, the risks that the technologies will perform and deliver the savings expected will lie with the end user. The Romanian markets for these technologies are generally well served by a large range of local producers and dealers of imported equipment.

The market assessment has identified the conservative overall potential in several industrial sectors, and also a subset that may serve as initial year pipeline projects. Any project pipeline can only be indicative, as all final investment proposals will be selected by the Fund Manager and endorsed by the Board of Administration. Several case studies have been developed which are included in the project files. The market analysis, however, identified a fair number of companies that can be considered as good prospective clients for the Fund in the short- to medium-term. Many of these companies were represented at the FREE launch workshop in November 2001. Romanian experts are now supporting a number of interested potential clients in the development of detailed bankable investment proposals, which would serve as the initial pipeline for consideration of the Fund Manager.

During implementation, project development will be actively pursued:

- by the Fund Manager whose terms of reference require this activity;
- through FREE outreach activities such as workshops and seminars targeted at potential clients; and
- through collaboration with other organizations active in energy efficiency project development

and capacity building (see Section C).

Demand could be adversely affected by macroeconomic factors. Since the macroeconomic outlook is encouraging and since Romania exhibited resilience in the face of the current global downturn, this factor is not considered a major risk. In addition, the proposed size of the Fund is fairly small compared with the overall market potential. The creditworthiness of borrowers may limit the off-take from the Fund; however, structured financing techniques should help finance projects where the investments could be insulated from corporate risks. On the positive side, the recent and continuing adjustments of energy prices provide intrinsic incentives to firms and other users to undertake energy efficiency investments.

4. Institutional:

The Structure and Establishment of the Romanian Energy Efficiency Fund (FREE)

FREE was established in October 2001 based on an emergency ordinance. It has a two-tiered organizational structure, consisting of a Romanian Energy Efficiency Fund (FREE), which would receive the GEF funds through the Government of Romania, and a Fund Manager in charge of the investment operations. FREE will have the role of project implementation unit, but will also be responsible for attracting donor co-financing to the project, and for implementing the non-commercial aspects of the project. Within the limits of this structure, the Fund Manager will have as much freedom as possible to determine the Fund's portfolio. By requiring that financial professionals have the majority in FREE's investment committee, other than commercial considerations in the selection of projects and clients are minimized.

Identifying partners for project development

FREE needs to link closely with existing entities in Romania that can participate actively in project development. Manufacturers, suppliers and dealers of energy efficiency equipment, various industry associations, ESCOs, engineering firms, and business advisory centers have connections with industries, and their own particular interests which could be harnessed to identify projects for the Fund and support potential clients in the preparation of projects. A "finders fee" of 1% of project loan has been included in the financial model to reflect the cost of developing the pipeline, which is estimated to be sufficient compensation to potential partners. Many of the potential partners require training in order to provide effective project pipeline development services. see Section C.

4.1 Executing agencies:

Romanian Energy Efficiency Fund (FREE)

4.2 Project management:

The smooth operation of the new public-private institution constitutes a risk. This will however be minimized by the existence of clear bylaws, an operational manual, rotation of the chair of FREE's BoA, and a market-based sitting fee for the Board members, thus eliminating any inherent interest in interfering in commercial decisions. The Operational Manual will include all aspects of project implementation and constitute the policy basis for FREE operation. Accordingly, FREE would be required to submit the draft Operational Manual to the Bank for review, incorporate the agreed revisions and adopt the Bank approved Operational Manual before Board presentation of the project.

4.3 Procurement issues:

None

4.4 Financial management issues:

Financial Management

The first CFAA (Country Financial Accountability Assessment) for Romania is planned to be carried out in late 2002-early 2003. When finalized, the document will present in detail the financial management risks for the country and the implications for the World Bank operations. From the financial management perspective, the Project is considered a significant risk operation, the details of which are represented in Annex 6. The risks to which the project is exposed and the specific measures to mitigate them are summarized below.

Country generic risks:

- The banking system risk is still perceived as being significant. The Romanian banking system has undergone a major overhaul and reforms are still underway (being monitored under PSAL II). FREE would be required to open the Special Account as a sound commercial bank acceptable to the World Bank, and FREE would be strongly encouraged to adopt such prudence in securing banking services.
- Inflation and its impact on exchange rates remain a major problem in Romania. Despite a significant improvement over the past years, the estimate for the cumulated figure for 2001 is about 31%, while the USD/RO exchange rate has increased by 21.9% over the same period. This risk to the project would be mitigated by denominating all investments and loans in USD and by requiring repayments of principal and interest in RO equivalent amounts using the exchange rate at the time of payment.
- During the recent past some concerns have been raised concerning fraud, waste and abuse of donor funds in the region. Perceived corruption as reported in the press is principally in the area of procurement. The risk that the Bank's funds will not be used as intended for financing the defined investment program is judged as acceptable by introducing several measures, principally the 'ring-fencing' of the project through the establishment of a dedicated entity, the FREE, that will act as the project implementation unit, with a comprehensive staff structure and segregation of duties within the unit, the competitive selection of a professional fund manager approved by the Bank and requiring beneficiaries' representatives to certify the work done, goods delivered and services rendered, an independent yearly audit of the FREE and project funds by a reputable audit firm, acceptable to the Bank.

Project specific risks:

- The risks of possible collusion and corruption among individuals involved in the project would be addressed through several measures. Main among these are: (i) all payment orders will be signed jointly by the executive director and finance controller of FREE; (ii) the contract with the fund manager will clearly stipulate the roles and functions covering all aspects of the portfolio management, from the initial screening of potential clients, to the selection mechanisms and throughout implementation of sub-projects, including payment of fees and repayment of the loans; and (iii) the fund manager would certify claims from beneficiaries' representatives before payments are made by FREE.
- FREE is a newly established and has yet to gain experience with the World Bank procedures. The selected Finance Controller has requisite qualification with experience in project management and financing, banking procedures, budgetary statutory requirements, trade and commercial accounting skills, auditing, etc., and thus it is expected that this risk is a moderate one. This risk would be further reduced through training to the staff of FREE in the Bank's procedures, and the TA includes funding for financial management and disbursement training (such as the training courses organized periodically by the Bank in the region, as well as the specialized training courses organized by the WBI in Turin, Italy).

Overall, the above mentioned risks are considered as manageable due to the various risk mitigation measures proposed.

5. Environmental:

Environmental Category: F (Financial Intermediary Assessment)

5.1 Summarize the steps undertaken for environmental assessment and EMP preparation (including consultation and disclosure) and the significant issues and their treatment emerging from this analysis.

a. Environmental Issues: No adverse major environmental issues are associated with this project which is specifically designed to generate energy savings. Investments will reduce fuel consumption and/or encourage the use of less polluting fuels which in turn will improve air quality. The Fund will not invest in those projects where process changes may negatively impact the environment.

Replacement of materials and equipment may lead to dust and noise emissions. Replacement of old insulation material may involve asbestos removal, and assurances must be provided that any new insulation materials are acceptable under Romania's commitments to the Montreal Protocol.

b. Environmental Category: FI (Financial Intermediaries)

c. Justification/Rationale for category rating: All project components should, during operation, provide for substantial reductions in the use of fossil fuels in general and/or replacement of polluting fuels with cleaner fuels. There may be some minor adverse effects during construction/replacement activities.

d. Status of Category Assessment: N/A

e. Proposed Arrangements to address environmental issues:

During project preparation, the project team carried out an evaluation regarding the adequacy of current Romanian environmental laws and institutions to address potential environmental issues associated with subprojects to be supported under the project. Following is the summary of this evaluation: Romania has very comprehensive environmental legislation that approaches the EU environmental regulations and guidelines. The only missing regulation concerns asbestos management. It is expected that this issue will be addressed in the upcoming revision of the Law on the Environment. Secondly, the capacity of the individuals with the responsibility for overseeing and reviewing EIA is very high. However, the physical capacity of handling the enormous workload in this area is wanting.

FREE's Operational Manual, which will be made available through FREE's website, includes an environmental section describing the EA procedures for the project and the institutional mechanisms for the environmental screening and assessment.

The Fund Manager will be responsible for screening the subprojects and ensuring that necessary follow-up actions are taken. The environmental screening and assessment procedures will apply to all subprojects financed by FREE, and not just the ones financed through the initial capital for the Fund provided by GEF. The staff of the Fund Manager will receive environmental awareness training. A set of guidelines and screening mechanisms has been prepared as part of the draft Operational Manual of FREE which will allow the Fund Manager staff to determine the general environmental effects that a project will have for which a loan is being requested and identify those projects, expected to be in a minority, which require an environmental assessment. The target investments for FREE financing involves small to medium sized projects for replacement of old polluting technologies and thus are expected to fall under category C or B. In case of category B projects, the preparation of environmental management plans approved by the local environmental protection agency usually would be a condition of financing. Large projects under category A are not the target of this project. However, should such a large project (e.g. cogeneration) be considered with shared financing under cofinancing arrangements, the clients would have to prepare an EIA which would have to be reviewed and approved by the Bank. For projects in categories A and B, affected groups must be consulted.

In order to be eligible for financing, the subprojects need to meet all Romanian environmental requirements, approvals, and procedures, and shall be consistent with the World Bank environmental policies and procedures, as well as the guidelines of the Bank's Pollution Prevention and Abatement Handbook. Any client of FRE need to have valid operating permits and must not have any environmental liabilities in terms of pollution fees and fines, including any pending environmental related litigation. In case the prospective client does not have a valid authorization issued by the Romanian authorities, he has to provide evidence that the company has applied for them, and which steps have been made so far in the authorization process. In accordance with the Romanian legal provisions, an economic player has the permission to further operate until the finalization of the authorization process, if a Corrective Action Plan (Conformity Plan) has been agreed upon with the environmental protection agency.

After loan approval, the Fund Manager will be required to monitor the environmental compliance. Indications that compliance is not being met will lead to consultation with the local environmental protection agency that will pursue the necessary action, and will be reported to the Bank.

f. Status of any other environmental studies : N/A

g. Local groups and NGOs consulted : See E7.

h. Resettlement: N/A

i. Borrower permission to release EA : N/A

j. Other remarks : None

5.2 What are the main features of the EMP and are they adequate?

N/A

5.3 For Category A and B projects, timeline and status of EA:

Date of receipt of final draft:

N/A

5.4 How have stakeholders been consulted at the stage of (a) environmental screening and (b) draft EA report on the environmental impacts and proposed environment management plan? Describe mechanisms of consultation that were used and which groups were consulted?

N/A

5.5 What mechanisms have been established to monitor and evaluate the impact of the project on the environment? Do the indicators reflect the objectives and results of the EMP?

N/A

6. Social:

6.1 Summarize key social issues relevant to the project objectives, and specify the project's social development outcomes.

No social hardships are anticipated as a result of the project. The project will initially concentrate on lending to private sector companies in potentially competitive subsectors of industry which has a history of very high energy intensity. By investing in energy saving measures, those companies will be able to reduce their operating costs and increase their product quality. Improved competitiveness on internal and external markets should be the result, leading to higher industrial growth rates. The population will benefit through increase in employment. In a second phase, the portfolio of the fund is expected to include projects in the municipal and building sectors. The project would make basic infrastructure services more affordable and improve the comfort of the general population.

6.2 Participatory Approach: How are key stakeholders participating in the project?

a. Primary beneficiaries and other affected groups :

There is a widespread interest within public and private sectors to identify and implementing sustainable mechanisms to finance energy efficiency investments. During identification and preparation activities there has been wide consultation and high-level participation from those stakeholders, whose support and commitment are central to the outcome of this project:

- Companies in the industrial sector who would be the potential clients for the Fund, and their associations;
- Manufacturers, contractors and other service providers, for example, ESCOs, research institutes and engineering and consulting companies, but also associations, catering to the industrial and other sectors, who are targeted as partners and allies of the Fund;
- Companies in the financial sector, particularly banks, but also leasing companies, who are targeted as co-financiers and potential partners of the Fund; and
- Actors in the environmental sector, particularly those interested in global environmental issues.

High-level management and energy managers of companies in the industrial sector, identified as the primary target for financing energy efficiency investments, have been engaged during the market assessment. However, this has been on a rather general level with the purpose of informing project design, rather than developing a project pipeline. This will be the responsibility of the future Fund Manager who will be in charge of making all commercial decisions. The other main target of outreach activities are the partners with which the Fund might cooperate during project identification and preparation. Among those potential partners are associations of industrial and small and medium enterprises, manufacturers and suppliers of energy efficiency appliances, sectoral research institutes, energy service companies, and others. This broad-based participation and public involvement was intensified during the latter stages of project preparation. In November 2001, a workshop and investors' conference was held which assembled all project stakeholders and further familiarized them with FREE.

b. Other key stakeholders :

See a. above

6.3 How does the project involve consultations or collaboration with NGOs or other civil society organizations?

See 6.2

6.4 What institutional arrangements have been provided to ensure the project achieves its social development outcomes?

N/A

6.5 How will the project monitor performance in terms of social development outcomes?

N/A

7. Safeguard Policies:

7.1 Do any of the following safeguard policies apply to the project?

Policy	Applicability
Environmental Assessment (OP4.01, BP4.01, GP4.01)	<input checked="" type="radio"/> Yes <input type="radio"/> No
Natural Habitats (OP4.04, BP4.04, GP4.04)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Forestry (OP4.36, GP4.36)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Pest Management (OP4.09)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Cultural Property (OPN11.03)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Indigenous Peoples (OD4.20)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Involuntary Resettlement (OP/BP4.12)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Safety of Dams (OP4.37, BP4.37)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Projects in International Waters (OP7.50, BP7.50, GP7.50)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Projects in Disputed Areas (OP7.60, BP7.60, GP7.60) *	<input type="radio"/> Yes <input checked="" type="radio"/> No

7.2 Describe provisions made by the project to ensure compliance with applicable safeguard policies.

See section 5.e.

F. Sustainability and Risks

1. Sustainability:

The project promotes the market-based, commercial funding of energy efficiency projects. The development of a sound portfolio of projects which are financially and economically viable and presented by creditworthy borrowers will be ensured by entrusting lending decisions to a professional management which will adhere to a set of preset conditions and whose income will be determined to a large extent by the performance of the Fund, i.e., its profitability.

While the Fund would be able to significantly increase funding for energy efficiency investments in Romania over the baseline on the basis of the GEF capitalization alone, (see Annex 4, financial model), the ultimate success of the Fund depends on being able to attract commercial co-financing which will only be the case with a string of early successful deals and with the perception of a commercially focused operation. The Fund will thus foster, through both demonstration effects and explicit partnerships, expanded investments by other market players, such as commercial banks or energy service companies.

The sustainability of energy efficiency financing will be enhanced further by the Fund engaging a range of partners and allies in commercially focused project development and other project implementation components. These partners will have received training in combining technical and financial skills and will have had opportunities to use them during project implementation. It is expected that they would continue to offer those commercial skills after project implementation.

The exit strategy (see below) foresees that GEF funds (minus any contingent grant and the TA component) will be pulled out of the Fund at a time when the success of commercial energy efficiency financing has been demonstrated. The fund's loan portfolio could be sold by soliciting bids and thus dissolving FREE in a transparent, competition-based manner. Alternatively, interested parties could take over the commercial aspects of the fund, again under a competitive mechanism. The GEF funds will then be used for other GHG mitigation projects in Romania that are in line with the GEF global objectives, as

described in the implementation agreement.

2. Critical Risks (reflecting the failure of critical assumptions found in the fourth column of Annex 1):

Risk	Risk Rating	Risk Mitigation Measure
From Output to Objective		
Projected energy savings and improved cash flows do not materialize	S	-Collaboration with qualified engineering and financial consultants during project development -Comparison of saving predictions against benchmarks during project due diligence
Energy price signals do not encourage end user interest in implementing energy efficiency measures	M	-Adapt project design and targeted borrowers to economic situation
Fund clients do not repay loans	S	-Professional Fund Manager thoroughly screens clients and monitors them during repayment period -Design and use of innovative collateralization
Market-based skills are not adapted and used by technically trained specialists	M	-Choose partners and specialists who have an incentive to develop & use market-based skills
From Components to Outputs		
Effective Fund Manager cannot be secured and retained	M	-Procurement process has started in December 2001, and the Fund Manager is expected to be in place by grant effectiveness
FREE overhead costs surpass critical limit	M	-Cost of FREE overhead is capped during first three years of project implementation -Cost estimates have been validated extensively during project preparation -Adequate incentives for cost control in management performance contract -Collaboration with experienced partners
Energy consumers are unwilling to borrow for EE investments	S	-Development of an indicative project pipeline before grant effectiveness -Partners in project identification and development are trained and receive finder's fee for projects accepted for financing -Project identification and development and marketing of the facility is pursued vigorously by Fund Manager and partners
Adequate cofinancing cannot be secured	M	-Fund Manager is clearly commercially oriented and FREE Board supports investment recommendations -Fund investment successes are disseminated actively among potential cofinanciers -Fund Manager and FREE staff pursue commercial and donor financing actively
Failure of early projects does not demonstrate viability	M	-Project development activities targeted at most viable segment of the market -Careful selection among credit worthy

		borrowers and projects with high success rates - Tier remuneration of Fund Manager to successful performance of early projects
Overall Risk Rating	S	

Risk Rating-H(High Risk), S(Substantial Risk), M(Modest Risk), N(Negligible or Low Risk)

Risk Analysis and Mitigation

Commercial financing of energy efficiency projects in Romania is fraught with risks. The proposed project recognizes the existence of those risks and is developing mechanisms to defray them to the extent possible. This is reflected in the overall rating of "S" for the project, even though many risks are modest as noted in the table above.

The most important general risk mitigation tool is the flexibility of the financing mechanism. The Fund Manager needs to be able to change and adapt financial products, targeted clients, partners and allies to changing circumstances for the Fund to become profitable. The implementation agreement between World Bank and FREE and the management contract between FREE and the Fund Manager will specify the arrangements under which key features of the Fund's operation can be changed. A monitoring process with lead indicators will be put in place to allow for quick management decisions.

Key risks include:

- Macroeconomic conditions discourage energy efficiency investments: The macroeconomic situation is still relatively unsettled in Romania. Recent indicators point to improvements with industrial activity picking up, particularly in the export sector. It is expected that the situation will continue to improve, particularly with a new Government in place. If, however, the economy falls back into a slump, demand for financing of energy efficiency projects would be repressed. In that case, the Fund Manager would need to identify other targets for investment financing which are less vulnerable to general economic performance such as municipal services and buildings. If this strategy also fails, the Fund Manager and the FREE management would need to reduce overhead costs and gear towards a smaller operation.
- Energy consumers are reluctant to borrow for energy efficiency investments. The project is designed to mitigate this risk by collaborating with partners in project identification and development who already have established connections with potential Fund clients. Those partners will be trained, particularly in the packaging of bankable projects, under the GEFTA component, and they will receive an incentive in form of a finder's fee for projects accepted for financing. In addition, the Fund Manager will engage in intensive marketing of Fund products, particularly with senior management of targeted clients. One particular reason why borrowers might be reluctant might be that energy price signals don't encourage end user interest in implementing energy efficiency measures. Energy prices in Romania are increasingly market-based. Should they fall in real terms, prospects for quick-payback projects would be diminished. In that case, the Fund Manager would need to concentrate project development in those technologies and sectors which are less affected by energy price reductions. In fact, the highly favorable financial returns of many current energy efficiency investments suggest that some downside price risk can still be absorbed.
- Projected energy savings and improved cash flows do not materialize: Only proven energy saving technologies, which have delivered sound energy savings in a variety of circumstances internationally, will be eligible for financing. Due to the lack of experience with the implementation of energy saving technologies in Romania, feasibility studies may overstate energy savings, actual costs may differ, or contractors may be inexperienced. Any of those factors could impact negatively

on actual savings and financial results. The project will employ a range of measures to ensure that ensuing risks are minimized: Collaboration with qualified engineering and financial consultants during project development, comparison of saving predictions against benchmarks during project due diligence, and intensive monitoring of the first implemented projects to ensure that funds were spent on the measures identified, measures were implemented properly and devices operated as designed.

- FREE clients do not repay loans: Communism has created a non-payment culture which is still not completely abolished. The full collection of interest payments and principal repayments is, however, of paramount importance for the success of the Fund. The Fund Manager will thoroughly screen the credit standing of potential clients, and collaborate with partners in the monitoring of clients and the collection of payments. The Fund Manager is encouraged to explore innovative collateralization methods and to seek innovative financing schemes that are more oriented towards the cash flow of the projects rather than the balance sheet of the potential borrower.
- Technically trained specialists have difficulty adapting to a truly commercial environment: During the past ten years, many professionals have been trained in technical energy efficiency skills. Their financial skills, particularly in the packaging of bankable projects, have however been neglected. For the sustainability of energy efficiency financing, professionals need to combine those skills. The Fund Manager may want to choose those organizations as partners in project development that have already demonstrated that they can successfully and sustainably provide services to clients in the industrial and other sectors, for example some of the business advisory centers, or some of the sectoral research institutes.
- An ineffective Fund Manager cannot be secured and retained: The success of the proposed project hinges on the identification and performance of a professional Fund management team. During project preparation, extensive consultations with financial experts have taken place to understand the requirements of the Fund Management position and the ability of the market to provide good candidates for the position. The recruitment of the Fund Manager according to World Bank procurement rules has started in December 2001 and is expected to be finalized by the time the project becomes effective or soon thereafter. Twenty-eight firms have expressed interest to be short-listed and about a half of these firms are operating in Romania. A competitive remuneration package with incentives for successful performance and credible assurances that government interference in financing decisions will be minimized are two important factors in being able to attract and retain professional staff.
- FREE overhead costs surpass critical limits: During project preparation, all cost estimates have been validated extensively. The Fund has been designed to attract professionals, both for administration and fund management. The collaboration with experienced partners, e.g., from the banking sector, would contribute to keeping FREE overhead costs under control. Also, the costs of FREE' administration will be capped, as per the project implementation agreement between the Bank and FREE.
- Failure of early projects does not demonstrate viability of energy efficiency financing: The Fund needs to be able to establish a track record of successfully implemented projects from the very beginning. Only then will the Fund Manager be able to attract further clients and commercial co-financing. In order to achieve these early successes, credit worthy borrowers and projects with high success rates need to be carefully selected, implemented and monitored. Tying the remuneration of the Fund Manager to the successful performance of early projects would further reduce the risk of early failures.
- Commercial co-financing is not forthcoming: The Fund is designed to start up with GEF seed capital. With strict cost control and some initial covering of FREE operating costs by GEFTA, the Fund could become self-financing even without additional co-financing. It will however be difficult to have a significant impact on creating sustainable financing for energy efficiency investments unless substantial co-financing is forthcoming. To be able to attract this co-financing, the Fund

Manager will need to signal the Fund's commercial orientation, and to showcase a number of initial successful projects. The GEFTA component will support putting those first projects together and to carry out their careful monitoring and evaluation and the dissemination of experiences. The successful solicitation of co-financing would provide additional income to the Fund Manager. There is however a possible spillover of macro-economic risks: To the extent that returns from energy efficiency projects are lower than returns from other investments, co-financiers might choose not to participate in FREE, reflecting the conditions of the financial markets.

In the worst cases scenario--protracted economic problems and scant interest of clients to apply for financing from the Fund--GEF and the Bank would exit from the project early. Under such a scenario, operating costs would not be covered by the return from investments. If FREE fails to come even close to the benchmarks for the self-financing ratio (see G.2), the project would be cancelled. The implementation agreement between World Bank and FREE and the management contract between FREE and Fund Manager would contain clauses to this effect.

Exit Strategy

As a self-sustaining barrier removal project, the monitoring indicators have been set to show early signs of success or failure. The main indicator is the Fund's self-financing ratio.

If the Fund becomes fully self-financing in year 4 as targeted (this would be known by year 3 latest), the project would continue to be implemented under World Bank supervision until GEF funds have been fully disbursed at the end of year 5. If FREE's activities are successful, it is likely to continue its energy efficiency activities for another 3 years. It will be ensured that appropriate monitoring and evaluation of energy efficiency activities continue after project closure and that appropriate funding is set aside during discussions between GoR, GEF and World Bank about the future use of the remaining GEF funds. During years 6-8, discussions would be encouraged with the financial sector in Romania to examine whether it is ready to take over and also continue lending to energy efficiency investments. The assets of the Fund would be sold through transparent bidding process and the funds realized would be returned to GoR for supporting other GHG mitigation and related activities in Romania after seeking the Bank's and GEF's approval. Also, if the need for FREE is not established, it would be closed in accordance with the laws and regulations. It is possible that such exit may happen after year 8, in which case the provisions of the grant and implementation agreements would continue to govern the Fund's operations during such extended period also.

In the event the Fund does not show self-financing prospects in year 4, then further lending activities would be stopped after year 3, the Fund Manager's contract would be terminated and FREE would focus on recovering all outstanding funds. The Fund Manager's contract would incorporate appropriate provisions to this effect. Hence, the Fund's investments through non-debt type of vehicles would not be encouraged during the first three years to ensure fast exit. During years 4 and 5, FREE's operations will be minimal to manage the portfolio until all funds are recovered and the funds would be returned to GoR. These funds would also be subject to review and approval of the Bank and GEF to allow GoR to finance other GHG activities in Romania. FREE's need and role would also be examined and accordingly the appropriate actions would be taken. The maximum loss to this event would be the TA of \$2.0 million, plus about \$300,000 for FREE overheads during years 4 & 5 and any defaults. The project would be cancelled and any undisbursed funds would be returned to GEF.

3. Possible Controversial Aspects :

None

G.Main Grant Conditions

1.EffectivenessCondition

- 1.FREE'soperatingbudgetforthe firstyearapprovedbytheBankisadoptedbyFREE'sBoardof Administration
- 2.The subsidiarygrantagreementbetweenGoRandFREE,satisfactorytotheBank,hasbeenduly executed.
- 3.FREEhasprogressedinFundManagerprocurementatleastuptoselectionoftheFundManager.

2.Other [classifyaccordingtocovenanttypesusedintheLegalAgreements.]

Prior to Board Presentation

1. OperationalManualofFREE,approvedbytheBank,hasbeenadoptedbyFREE'sBoardof Administration.TheOperationalManualaddressesallfiduciaryandsafeguardissues,andany futurechangesintheOperationalManualhavetobeapprovedbytheBank.
2. FREEhasprogressedintheprocurementoffundmanageratleastuptosubmissionofbids.

During project implementation :

1. FREEshallatallpointsof timeemployaqualifiedFundManagerasitsimplementation consultant.
2. FREEshallachieveaself-financingratio(shareofoperatingexpenditurescoveredbyoperating income)ofatleast20%,50%and100%bythe24th,36thand48thmonthsrespectivelyfrom effectiveness.
3. FREEshallsubmit,byOctober31ofeachyear,itsdraftannualoperationalbudgettotheBank foritsreviewandapproval;andadopttheagreedbudgetbeforeDecember31.
4. FREEshallsubmittotheBankquarterlyprogressreports,includingthequarterlyportfolio report oftheFundManager.
5. FREEshallsubmittotheBankforitsreviewtheFundManager'sannualbusinessplanand incorporatetheagreedcommentsbeforeitisapprovedbyFREE'sBoardofAdministration.
6. FREEshallreviewwiththeBankallproposalsforco-financing,includingthefinancing agreements,andshallnotenterintoanyfinancingagreementwithoutreviewandapprovalofthe Bank.
7. FREEshallhireanindependentauditor nolaterthan threemonthsaftereffectivenessofthe project.
8. FREEshallsubmitannualauditreportsofitsfinancialaccounts,projectaccount,specialaccount andSOEs within sixmonthsoftheendofthefiscalyear.
9. Mid-termreviewoftheProjectistobeundertakeninthefourthyearofoperation.
10. GoRandFREEshallreviewwiththeBank nolaterthanJune30,2007, theactionplanforthe reuseoffundsderivedfrominvestinginthesubprojectsafterthecloseoftheproject.
11. FREEshallnotamenditsOperationalManual[andbylaw]withoutpriorapprovaloftheBank.

The timing and manner of exit of GEF funds from the Fund and their future use for advancing the GHG emission reduction agenda in Romania will be discussed and agreed between the Government of Romania, the GEF and the World Bank. A premature exit may be decided after the mid-term review of the project during the fourth year of project implementation, if the self-financing goals fall far short of being met (see section F2 for details on exit strategy).

H. Readiness for Implementation

- 1.a) The engineering design documents for the first year's activities are complete and ready for the start of project implementation.
- 1.b) Not applicable.
- 2. The procurement documents for the first year's activities are complete and ready for the start of project implementation .
- 3. The Project Implementation Plan has been appraised and found to be realistic and of satisfactory quality.
- 4. The following items are lacking and are discussed under loan conditions (Section G):

I. Compliance with Bank Policies

- 1. This project complies with all applicable Bank policies.
- 2. The following exceptions to Bank policies are recommended for approval. The project complies with all other applicable Bank policies.

Varadarajan Atur
Team Leader

Henk Busz
Sector Manager/Director

Andrew N. Vorkink
Country Manager/Director

Annex1:ProjectDesignSummary
ROMANIA: EnergyEfficiency

HierarchyofObjectives	KeyPerformance Indicators	DataCollectionStrategy	CriticalAssumptions
<p>Sector-relatedCASGoal: Promotingstructural reformandprivatesector development</p> <p>Protectingandenhancing theenvironment</p> <p>b.GEFOperation Program: Removalofbarriersto energyefficiency</p>	<p>SectorIndicators: -Increasingshareofprivate industrialsectorinGDP, investmentandlending -Recordingofreal reductionsinairpollution emissions -Recordingofreal reductionsingreenhouse gas(CO2)emissions</p> <p>-Decreaseofenergy intensityofkeyindustries andotherenergy consumers -Reductioninthecarbon intensityoftheeconomy</p>	<p>Sector/countryreports: -GoRandNBRstatistics -NationalandLocal EnvironmentalReports -EmissionReduction MonitoringReports</p> <p>NationalCommunicationto theUNFCCC</p>	<p>(fromGoaltoBankMission) BankMission: Privateprovisionofenergy serviceswithoutsignificant negativeenvironmental impact</p> <p>GEFMission: Reductionofgreenhouse gasemissions,mainlyCO2</p>
<p>GEFOperationalProgram: a.Sector-relatedCAS Goal: • Promotingstructural reformandprivatesector development Protectingandenhancing theenvironment</p> <p>b.GEFOperation Program: Removalofbarriersto energyefficiency</p>	<p>-Increasingshareof privateindustrialsectorin GDP,investmentand lending -Recordingofreal reductionsinairpollution emissions -Recordingofreal reductionsingreenhouse gas(CO2)emissions</p> <p>-Decreaseinenergy intensityofkeyindustries andotherenergy consumers -Reductioninthecarbon intensityoftheeconomy</p>	<p>-GoRandNBRstatistics -NationalandLocal EnvironmentalReports -EmissionReduction MonitoringReports</p> <p>-NationalCommunication totheUNFCCC</p>	<p>BankMission: Privateprovisionofenergy serviceswithoutsignificant negativeenvironmental impact</p> <p>GEFMission: Reductionofgreenhouse gasemissions,mainlyCO2</p>

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
<p>Global Objective :</p> <p>Participating industries and other energy consumers adopt and utilize energy efficient technologies financed under commercial criteria by FREE and cofinanciers</p> <p>Global Objective Removal of barriers to market-oriented transactions and increasing private sector investments: Improved knowledge and availability of mechanisms necessary for financiers and energy consumer to fund energy efficiency projects</p>	<p>Outcome/Impact Indicators:</p> <ul style="list-style-type: none"> - Increase in commercially financed investment in energy efficiency - Reduction in energy consumption and energy bills from commercially financed investments - Number of financial sector institutions engaged in energy efficiency financing and their lending activity - Strong level of energy efficiency investments by end users financed from external sources - Number of win-win energy efficiency projects and associated investment volume with commercial banks participating in financing with FREE - Gradual reduction of GHG emissions from participating industries and other clients 	<p>Project reports:</p> <ul style="list-style-type: none"> - Implementation progress, evaluation and completion reports - Quarterly updates on status and use of funds - Annual Implementation and Performance M&E Updates - Surveys of financial energy efficiency activities <ul style="list-style-type: none"> - Implementation progress, evaluation and completion reports - Quarterly updates on status and use of the GEF facility - Annual Implementation and Performance M&E Reports 	<p>(from Objective to Goal)</p> <ul style="list-style-type: none"> - Macroeconomic conditions and environmental policies do not discourage energy efficiency investments <ul style="list-style-type: none"> - Macroeconomic conditions and environmental policies do not discourage energy efficiency

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
<p>Output from each Component: Solid record of performance by FREE in the delivery of commercially viable energy efficiency projects</p> <p>Increased capacity by FREE's partnersto identify and prepare bankable energy efficiency projects</p>	<p>Output Indicators:</p> <ul style="list-style-type: none"> - Gradual increase in the number of projects financed and their associated lending volume - Gradual increase in the investment volume in energy efficiency measures financed by FREE - Gradual increase in energy savings resulting from investments financed by FREE - Improvements in FREE's self-financing ratio (target: 100% in year 4) - Gradual increase in the number of FREE cofinanciers and associated financing volume - Number of projects identified and presented for funding - Ratings of understanding by end users and energy efficiency expertstrained by FREE of successful, financially attractive energy efficiency measures 	<p>Project reports:</p> <p>Implementation Reports</p> <p>Implementation Reports</p>	<p>(from Output to Objective)</p> <ul style="list-style-type: none"> - Projected savings and improved cash flows are achieved - Energy price signals encourage end user interest and motivate a full range of energy saving measures - Financing facility borrowers repay loans - Market-based skills are adapted and used by technically trained specialists

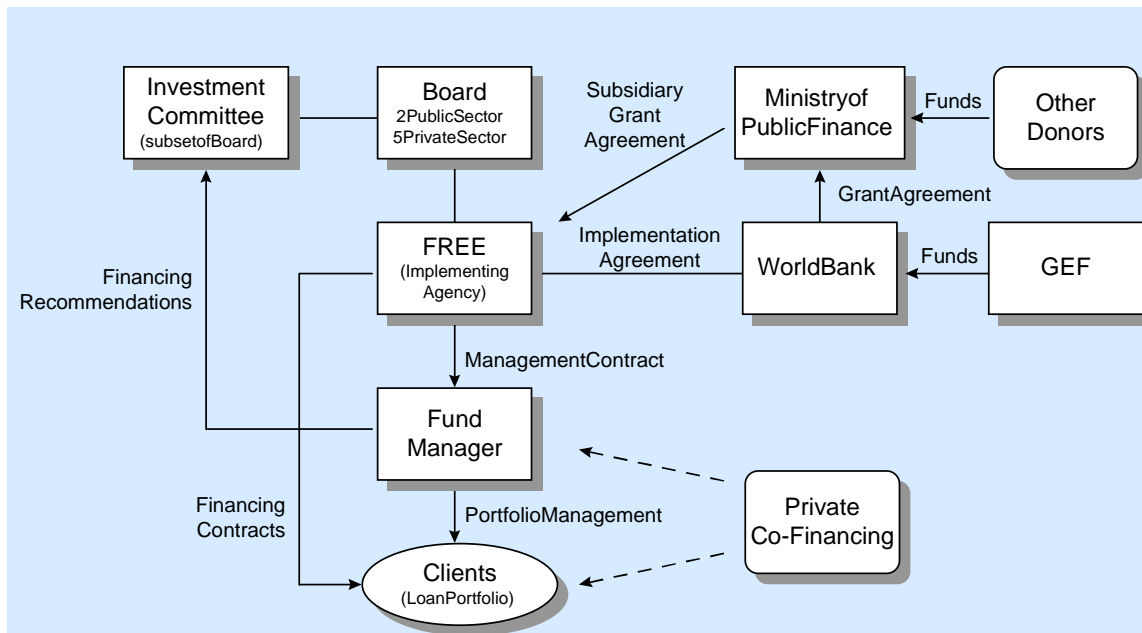
Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
<p>Project Components/ Sub-components:</p> <p>Investment financing:</p> <ul style="list-style-type: none"> ● FREE ● Subproject financing through cofinanciers ● Subproject financing from clients' own funds <p>Capacity building activities:</p> <ul style="list-style-type: none"> ● Initial project development ● workshops and seminars for partners and clients ● Training for fund manager and partners ● Monitoring and evaluation 	<p>Inputs: (budget for each component)</p> <p>US\$32 million</p> <ul style="list-style-type: none"> ● US\$8 million GEF seed capital ● US\$13 million (estimated) from cofinanciers ● US\$11 million (estimated) from clients <p>US\$2 million technical assistance grant</p>	<p>Project reports:</p> <ul style="list-style-type: none"> – Implementation progress reports – Supervision reports – Project management reports <ul style="list-style-type: none"> – Implementation progress reports – Supervision reports – Project management reports 	<p>(from Components to Outputs)</p> <ul style="list-style-type: none"> – Effective fund manager can be secured and retained – EEFF overhead costs are contained – Energy consumers are willing to borrow for EE investments – Adequate cofinancing can be secured <ul style="list-style-type: none"> – Success of early projects to demonstrate viability

Annex2: Detailed Project Description

ROMANIA: Energy Efficiency

The Global Environment Facility (“GEF”) has approved financing of US\$10 million under its Operational Program 5 to support through a World Bank project the establishment and operation of an Energy Efficiency Project Development and Financing Facility (FREE). This facility will be operated under FREE, and GEF funds will be used to capitalize the Fund and partially defray initial transaction costs. The Fund is expected to be launched in early summer 2002 and have a term of eighty years with project implementation by the World Bank during five years.

Figure: FREE Organizational Structure



FREE is an independent, autonomous legal entity with headquarters in Bucharest, Romania. It was established by the Government of Romania (“GoR”) through Emergency Ordinance Nr. 124, approved 8 October 2001, published in Official Gazette Nr. 644, 15 October, 2001. The organizational structure of FREE is represented in the above Figure. Although the funding will initially come mostly from GEF (public funds), FREE is independent and separate from any government agency. The Fund is overseen by a Board of Administration (BoA) consisting of seven representatives from the Romanian private and public sectors with a private sector majority. The chairmanship of the BoA which changes annually is initially held by a representative of the Ministry of Industry and Resources, Mr. R. Moucha, State Secretary. The three-person Investment Committee is a subcommittee of the BoA, and two of its members are financial experts. The Fund Manager can sit in on meetings of the Investment Committee and relevant portions of Board meetings. The Investment Committee will review all proposals submitted by the Fund Manager and make its investment recommendations to the Board for final decision through majority voting. FREE is administered by a small professional management team, headed by an Executive Director whose main responsibilities are to provide overall management of the project and serve as the main liaison with the World Bank and the GoR during project implementation. FREE will enter into a performance contract with a professional Fund Manager who will manage the investment aspects in a commercial manner, in charge of selecting which projects to finance to assure a sound portfolio in terms of sectors, risks and terms. The Fund Manager will report directly to the Executive

Director.

By Component:

Project Component 1-US\$ 8.00million

Investment Financing

Initially, the Fund is designed as a revolving debt fund. The target projects and investment guidelines of the Fund can be summarized as follows. In the first phase, the Fund will focus primarily on financing projects within restructured/privatized industries which can establish basic creditworthiness and have no major environmental problems. Eligible projects would be limited to those meeting the following criteria:

- The project must have a relatively short payback time (generally under three to four years);
- The investment be in the range of US\$ 100,000 to \$1,000,000 (to minimize transaction costs on the low side, and to limit exposure from a limited number of projects on the high side);
- At least 50% of each project's benefits have to come from energy savings (e.g., processor capacity improvements that have ancillary energy savings benefits are not eligible); and,
- The technology must be well proven in the proposed application to avoid technological risk.

The main energy efficiency technologies that meet these criteria are burners and boilers, variable speed drives, condensers for power factor improvement, compressors, controls, steam traps.

The Fund is expected to provide the following financial products for energy efficiency projects in Romania:

- Cash-flow based term loans made directly to end users (either based upon cash flow of the project plus the creditworthiness of the end user or on projected cash flow alone);
- Cash flow-based loans made to energy service companies ("ESCOs") on a project-by-project basis; and
- "Performance" loans where FREE partners with a supplier consortium and offers a total project package including engineering, equipment and financing.

In addition to debt financing, project financial support may include equipment leasing, payment for services, and/or various combinations of these. Loans will be made in US dollars or in dollar denominated local currency; repayments would also be made in dollar denominated local currency.

The Fund is designed to be flexible both in terms of product mix and term such that the Fund Manager can offer the financial products which the evolving market for commercial project financing demands. Eventually, FREE may invest equity in carefully selected projects and/or energy service companies. Furthermore, the Fund Manager will actively develop appropriate new financial products for energy efficiency projects.

FREE's financial transactions would start up slowly in the initial years and would most likely not be sufficient to generate an interest income covering the setup costs of FREE initially. As experience is gained, the number of projects can be increased sufficiently, achieving self-financing of FREE after about three years. Larger and more complex and innovative investment projects, both in terms of financial products and participation in the upside of energy efficiency investments will be approached in the later stage of Fund operations (after at least 2-3 years of operation). In that stage it is expected that the Fund Manager will be able to attract co-financiers, if necessary by using GEF financing to take subordinated positions, pay a small commitment fee, offer guarantees, etc.. It is expected that the range of clients will also be expanded, as the municipal services and the buildings sector will become more

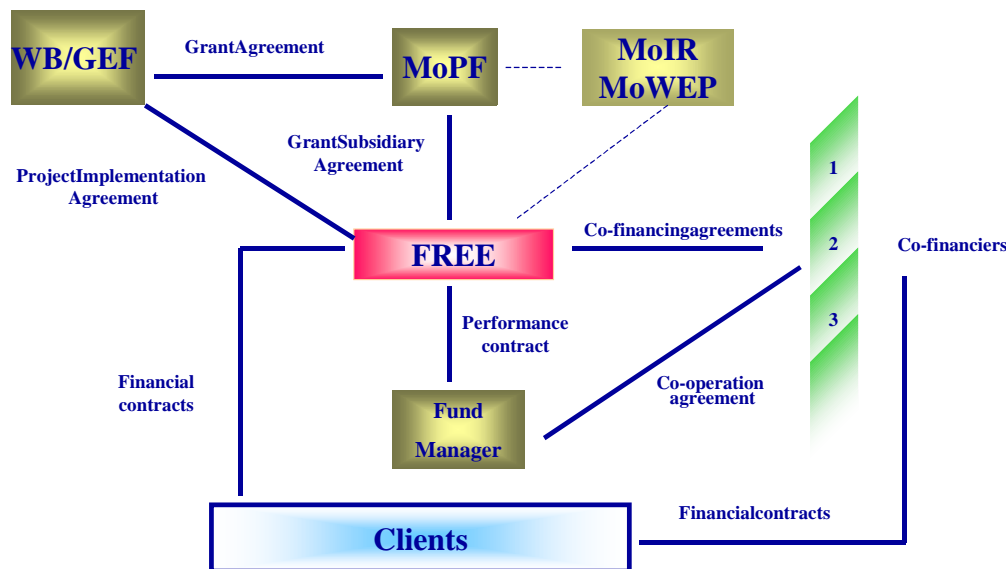
creditworthy and the fund manager will be able to structure financing products and packages in innovative ways to target new clients. Active partnerships with commercial financing institutions, leasing companies and energy service companies (ESCOs) will be strongly encouraged.

Commercial Co-financing: The initial capital for the fund will be provided by GEF. The project is, however, designed to attract a substantial amount of commercial co-financing. Based on discussions with potential co-financiers (foreign banks with Romanian branches, Romanian Banks, multilateral agencies and private foreign capital sources) the Project design is very flexible and allows for both parallel and direct co-financing arrangements.

- In a parallel arrangement, each co-financier retains control over his own funds and coordinates with the fund manager in the following ways: sharing the deal flow; sharing due diligence, consultants and structuring concepts; and harmonizing the terms of financing among different financing sources, so that the clients sign only one financing contract and interfaces with a single point of contact, namely the Fund Manager.
- In an indirect fund management arrangement, the co-financier would instead establish a dedicated account over which the Fund Manager would have control (but not ownership). In this case, the Fund Manager is empowered to make disbursements from the account for any transaction approved by the Fund Manager (within the context of the Fund Management Agreement between the co-financier and the Fund Manager) without the express consent of the co-financier.

Under either arrangement, the Fund could take subordinated positions, pay a small commitment fee, offer guarantees, etc., especially in the beginning stages of the implementation, to provide incentives for co-financiers. Since GEF funds and co-financiers' funds will not be commingled, procurement and disbursements under the project would not be influenced by co-financing arrangements. Further, all co-financing agreements would be subject to review and approval by the Bank. The contractual aspects under the project is shown below.

Contractual Relations



There are a number of risks inherent in investment activities such as those described above. Key risks

are enumerated below together with a brief discussion concerning a risk mitigation strategy.

Payment (i.e. Credit) Risk

As has been discussed above, the most significant risk in providing capital to Romanian companies is the risk of non-payment. The ongoing transition within the country and the associated macroeconomic measures being taken by the government to control inflation, stabilize the currency, and soon, place a heavy strain on Romanian companies doing business in a global economy. While borrowing conditions **for most clients**, particularly by Western standards, are harsh (i.e. very high dollar-denominated interest rates combined with very short tenors), the observed default rate on loans is quite low. For example, according to Banca Romaneasca, out of the 137 loans made through their small loan program with RAEF over the past 3 years, there are only 4 troubled loans: one borrower who has completely defaulted (now in litigation) and three others that require extensive efforts on the part of the bank to collect.

Common practices for mitigating payment default risk include:

- Careful screening, from a credit standpoint, of prospective borrowers
- Ensuring loans are “properly collateralized” (i.e. over-collateralized)
- Routine monitoring (i.e. site visits) with larger accounts to discuss business conditions and to anticipate cash flow problems before they occur
- Collections policies ranging from wire transfers for larger, creditworthy borrowers to personal site visits to collect cash for smaller, less creditworthy borrowers

Currency Risk: There are two main operative currency markets in Romania—one based upon the Romanian lei (ROL) and the other based upon the US dollar (USD). Generally, ROL interest rates are equal to the US dollar interest rate plus the difference between the Romanian inflation rate and US inflation. Hence, ROL interest rates are in the 50–60% range when Romanian inflation is running at 40% per annum. To avoid direct exposure to Romanian inflation risk, it is anticipated that loans and repayments will be made in USD denominated ROL.

Energy Price and Energy Savings Risk: In Western-style performance lending, the lender frequently assumes the risk that the borrower has achieved both the forecasted energy savings and that the unit value of that energy saved is at least some minimum value. In the case of the term and ESCO loans described above, the Fund is taking *neither* risk. Rather, loan repayments would be structured based upon **forecasted** economic benefits to end users. Should those benefits not materialize, the end user would still be obliged to make scheduled loan repayments. At the same time, should savings be greater, the end user still makes the same loan repayment. The Fund Manager will be able to adapt technologies, project design and subsector targeted if those risks are more than just transitory.

Performance Risk (of contractors): In the case of a term loan, the borrower (end user) arranges to have the project implemented; the Fund Manager’s role is limited in this regard. Therefore, the risk of non-performance of contractors is entirely borne by the borrower.

In the case of the ESCO loan, there is a possibility a dispute could arise between the ESCO and the end user. The guarantee from the ESCO in favor of the Fund is intended to mitigate this risk. However, this is of limited comfort because (a) the credit of the ESCO is likely to be limited, and (b) there is likely to be a difference of opinion among the ESCO and end user as to where fault lies. Hence, performance risk is a key issue in the ESCO loan and, to an even greater extent, in the performance loan. Ways to mitigate this risk include the following:

- Work only with reputable ESCOs with a proven track record and demonstrated abilities and resources.

- Finance projects that are very straightforward and do not involve new technology or complicated modifications to process equipment that is difficult to install, operate and/or monitor.
- Conduct extensive technical due diligence of the project and evaluate the ability to perform of both the ESCO as well as subcontractors and vendors.
- Closely monitor the installation of the project.
- Build in the ability to closely monitor the performance of the project, especially during the initial six months of operation.
- Establish a mechanism for the end user to alert both the ESCO and the Fund Manager of any suspected problems or other issues long before a performance dispute arises. This might take the form of a required notice that must be given by the end user with adequate time for the ESCO to remedy the problem before the end user is excused from his payment obligation. In this manner, if the ESCO cannot remedy the problem within some portion of the allotted time, the Fund Manager would have the opportunity to take alternative arrangements to fix the deficiency.

Interest Rate Risk: As a general rule, loans will be made on the same basis (fixed or floating interest rate) as funds are made available to FREE. In the case of the GEF grant funds, the Fund Manager could offer fixed interest rate products without incurring interest rate risk. However, since a key objective is to attract funds from other sources (e.g. Romanian banks), it is contemplated that only floating rate products will be initially offered.

Project Component 2-US\$ 2.00 million

Technical Assistance

In addition to financial services, the Fund would offer its clients expertise in energy efficiency to support them in project development and financial packaging. Technical assistance from the GEF contribution and donor funds will provide support for the latter. The types of technical assistance deemed to be necessary for the success of energy efficiency investment in Romania are:

- **Project development:** During the first three years, energy audits and feasibility studies will have to be carried out to develop bankable proposals that have a good chance to be financed by the Fund. For the first projects, the Fund may cover the total cost of the proposal; very soon however the clients will have to contribute to the development, with their share of the cost rolled into the loan amount.
- **Workshops/Seminars:** In order to support project development, partners of the Fund (consultants, ESCOs and other aggregators) and trained how to develop proposals targeted at the requirements of the Fund and potential clients have to be educated throughout reach activities about the benefits of energy efficiency investments and the procedures of the fund. The material for these two kinds of activities has to be developed on the basis of success stories and development of training and promotional materials. It is expected that at about midpoint of the project an international seminar on the FREE experience and replication potential would be organized.
- **Technical capacity building and development of alternative deal structures for energy efficiency investment for both the Fund Manager and selected partners such as ESCOs and Business Advisory Centers.** It is expected that the delivery of these new deal structures would also need increased support.
- **Monitoring and Evaluation activities are paramount for the success of the project.** Since it is expected that a large number of projects will be implemented over the lifetime of the project, M&E efforts will have to vary over time in their intensity. In the beginning of the project monitoring of project implementation and verification of energy savings and CO₂ emissions, including reporting to GEF, will be intense. For the first projects, and those that will test

investments in new sectors, different technologies, or other innovations, a verification of the actual savings will take place. For projects that are replicating previous projects, a short M&E form will be developed. During the first few months of project implementation, an M&E methodology and an implementation plan will be developed. The M&E information will provide the basis for the development of success stories to be used, e.g., in the outreach activities.

These activities will be carried out under the general responsibility of the Executive Director. The technical assistance for project development would be arranged by FREE in consultation with the Fund Manager (and approved by the World Bank) to directly support the priority activities of the Fund Manager. Accordingly, the annual business plan prepared by the Fund Manager would identify and specify the need for such TA activities. In addition to the above mentioned items (1-4), technical assistance funds will finance the following: (a) Management fees (retainer) of the Fund Manager for the first three years when the Fund is not yet self-financing; and (b) FREE's incremental operating costs during the same period.

Annex3:EstimatedProjectCosts
ROMANIA: EnergyEfficiency

ProjectCostByComponent	Local US\$million	Foreign US\$million	Total US\$million
InvestmentFinancing	21.00	11.00	32.00
TechnicalAssistance	0.00	2.00	2.00
TotalBaselineCost	21.00	13.00	34.00
PhysicalContingencies	0.00	0.00	0.00
PriceContingencies	0.00	0.00	0.00
TotalProjectCosts ¹	21.00	13.00	34.00
TotalFinancingRequired	21.00	13.00	34.00

¹ Identifiable taxes and duties are 0 (US\$m) and the total project cost, net of taxes, is 34 (US\$m). Therefore, the project cost sharing ratio is 29.41% of total project cost net of taxes.

Annex 4 Incremental Cost Analysis and Summary of Financial Analysis

ROMANIA: Energy Efficiency

Incremental Cost: Concept of Contingent Finance

Significant global environmental benefits can be achieved by reducing the energy consumption of all end use sectors throughout Romania. Despite the large potential for financially viable energy efficiency investments in Romania, very few such investments are being undertaken. Essentially, the market for energy efficiency financing is not functioning in Romania. The overarching barrier to energy efficiency investment is an unwillingness of banks to extend commercial credit for these projects: lending institutions consider both the costs and the risks of lending for energy efficiency at this time to be too high. The following barriers are the major causes of the financing gap (for details see section B.4.1):

- Transaction costs of identifying, developing and financing relatively small energy efficiency investment projects are high.
- Perceived risk of financing energy efficiency project is high.
- Combination of financial and technical skills, necessary to successfully develop energy efficiency projects, are currently not available in effective packages in Romania.

This project is designed to address and substantially reduce the barriers to expanding commercial energy efficiency investment by: (a) using the least amount of GEF resources possible, and leveraging GEF funds to the greatest extent possible with commercial funds, and (b) avoiding provision of any grants to end-users for commercially viable investments. Hence, it is proposed to adopt a "contingent financing" approach by creating and operating a market-based energy efficiency Fund (FREE). It will be supported by a GEF non-grant modality (Contingent Grant), providing an estimated US\$8 million in seed capital for a revolving fund which would finance energy efficiency activities on commercial terms, and a GEF Technical Assistance grant (TA component) of US\$2 million for support and evaluation activities. Together these two components would foster a large increase in commercial financing of energy efficiency projects in Romania.

GEF lead participation is critical for the project. Without GEF involvement in capitalizing the Fund and supporting initial project development, a baseline scenario would include a certain degree of progress, e.g., on capacity building and in some investment activity, mostly financed from internal funds. However, meaningful market-based energy efficiency investment will remain suppressed, as the basic problems which have impeded investment in the past remain unsolved. Perceived high risks and transaction costs involved in supporting energy efficiency investments within the currently undeveloped market continue to cause existing financiers to pursue other opportunities and agendas.

Barrier removal strategy. The project will substantially overcome the previously identified barriers by establishing a proven track record of commercially viable energy efficiency projects, achieved without interest rate subsidies to end-users. This experience will aid in convincing other commercial financing institutions that many of the risks in energy efficiency project lending are only perceived risks and/or can be managed, and that initial costs of getting into this specialized business are worth incurring or can be reduced based on prior experiences such that it can be a profitable business line.

The project will aid in institutional development in Romania by providing both finance and specialized technical expertise in the appraisal and packaging of bankable energy efficiency projects within one institution for the first time. The project will establish a specialized "one-stop shop" for enterprises seeking financing and technical assistance for such investments. Finally, the project will contribute to the

increased flow of information, training and technical assistance to assist enterprises and other energy end users in identifying and preparing commercially attractive energy efficiency investments.

Contingent Finance Modality. A small part of GEF funds will provide technical assistance for non-commercial but necessary support and evaluation activities. The majority of the GEF contribution to the project, the GEF contingent grant, will be used as seed capital to finance energy efficiency investments. It will help overcome the existing “financing gap” by providing access to project-based financing for Romanian energy end-users. Under the contingent finance modality, it is important to distinguish between the *contingent grant* and the *final (or net) grant*.

The initial GEF grant, or **Contingent Grant**, supporting the investment component, is a gross grant. Here it takes the form of seed capital for the Fund. The distinction between a conventional grant and a Contingent Grant is that the latter is returned partially or fully to the initial beneficiary, in this case the Government of Romania, depending on the project achieving expected or better than expected benefits.

The Contingent Grant differs from the **Final Grant**, also known as the “net grant”. At the end of the project, as much of the contingent grant as possible will be returned to the Government of Romania, for deployment for other priority GHG mitigation projects in Romania, to be agreed with the Bank and GEF. If the return is lower than expected because of factors directly linked to the performance of the Fund, the contingent grant is partially or fully converted into a grant. The amount that cannot be returned is the Final Grant. While estimates can be prepared based on likely projection of the Fund’s operations, the size of the Final Grant will not be known until the project closes.

The **Incremental Cost** of the investment component is equal to the Final Grant, plus the time-value of the money returned at the end of the project to the Government of Romania. Because the amount of the Final Grant will not be known until project closure, the incremental cost, demonstrated in actual practice, also will not be known until project closure.

The advantage of the contingent finance approach is its inherent ability to match the net GEF grant (equal to the Final Grant amount) with the actual incremental costs. The incremental cost payments of the Final Grant will be limited to the amount required to actually overcome the barriers to sustainable commercial financing of energy efficiency investments, as borne out during actual market conditions and project implementation. Overpayment of grant resources for activities which are initially considered risky, but end up yielding commercial returns is avoided. The contingent finance concept also offers exceptional direct GHG reduction value for GEF investment (see below).

Financial Modeling: Results

The Romanian Energy Efficiency Fund, initially capitalized with \$8 million in GEF contingent financing, is expected to generate income from fees and interest payments such that it achieves operational sustainability, meaning that operating costs are covered by revenues, including tax payments, after an initial period of operating losses due to high set-up costs.

Since the timing and amount of cofinancing is still uncertain, the base case looks at the sustainability and the incremental costs of the project assuming that only GEF funds will be available for financing. In a second step, under the reference scenario it is assumed that a moderate amount of cofinancing will be forthcoming, starting in year 2 and amounting to US\$13.5 over eight years. This is in fact the scenario which should be considered the most likely, given the positive responses of several Romanian banks and

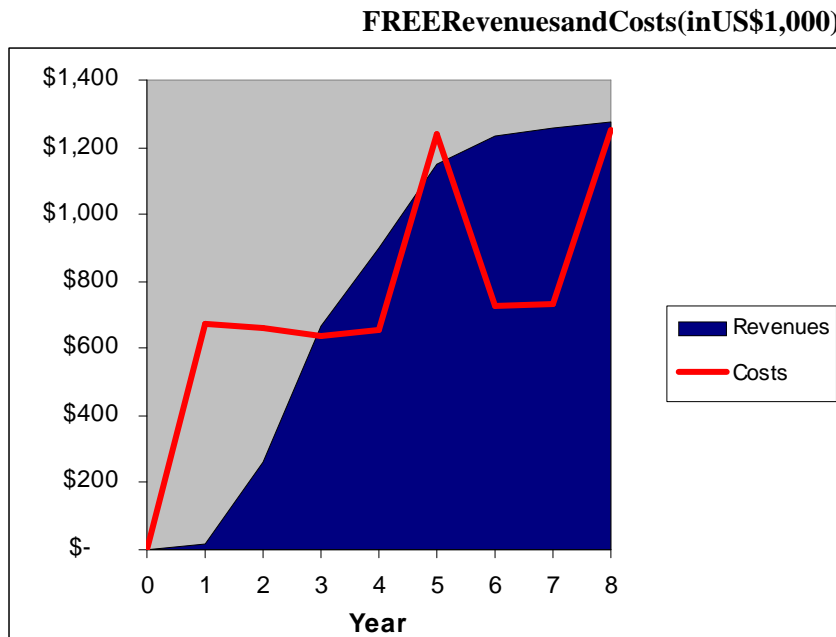
theBSTDB(seeSectionC.1).

Inthe basecase (noco-financing)theresultsofthefinancialmodelshowthattheprojectwillstill producefavorablereturnsandresultsfortheGEFasastand-aloneoperation.Self-sustainabilityofthe Fundwouldbereachedinyear3.Over8years,theFundwouldgenerateprofitssuchthatthenetvalueof thefund(cashbalance,outstandingloansandexpectedvalueoffutureincomelessdefaults)reaches\$13 millionbyprojectcompletion.

FinancialtransactionsoftheFundinthebasecasestartupslowly,thenbuildtoalevelwhereincome fromloaninterestandfeescoverFundoperatingcosts.Fundprofitsarereinvestedinnewprojects,and therevolvingnatureoftheFundyieldsinvestmentsof\$39.4millioninenergyefficiencyretrofitsin Romanianbusinessesoverthe8-yearlifetimeofFREE.Fundinvestmentsrepresenteightypercentofthe efficiencyretrofitprojects,anditisassumedthattheremainderwillbefinancedfromothersources (end-userinternalcashgeneration,workingcapitalloan,etc).Intotal,theprojectwouldthushave catalyzedoverUS\$47millioninenergyefficiencyinvestmentinRomanianbusinesses.

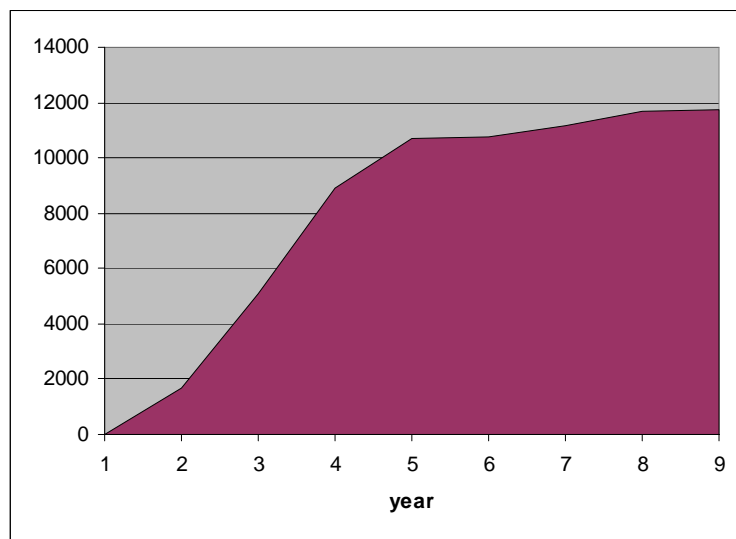
The basecase maketheextremelyconservativeassumptionthatloanactivityinYear1willbelimitedto 4projectstotaling\$1.9millioninloans.Initssecondyearofoperation,thereferencecaseassumes thattheFundwillfinance7projects,representinganadditional\$3.9millioninefficiencyinvestments. The Fundcansupportayearlyportfolioof\$5.6millioninannualloans,whichistheassumedcaseforyears 3-8.

Duetothegraceperiodextendedtoloanrecipients,theslowinitialpaceofdisbursements,VAT payments,andhigherthanaverageinitial expenditures,theFundwillnotgeneratesufficientrevenuesto coveroperatingcostsandoverheadcostsofFREEduringthefirsttwoyearsofoperations.Thus,GEF TAisneededto defrayoverheadcostsuntiltheFundachievesfinancialsustainability.Thefollowing chartshowstherevenuesandcostsofProjectoperation,withcostsexceedingrevenuesforYears1and2.



The jumps in costs in years 5 and 8 represent the success fee paid to the Fund Manager as a percentage of the increase in net asset value of the Fund, assumed to be 30% in this analysis. The following chart presents the net asset value over time. It shows relatively flat growth for periods 5 & 8, as net asset value is reduced by the bonus payment taken from cash balance.

FREE Net Asset Value (in US\$1,000)



There is, however, a powerful incentive, both for the GEF and for the Fund to attract co-financiers to participate in the financing of energy efficiency projects. This will allow the Fund to mitigate risk from a catastrophic (100% of loan) default and will increase net returns because potential co-financiers would contribute to the transaction costs of making loans by paying fees to the Fund, estimated here at 3.5% of the total co-financed loan, on a project-by-project basis. In the reference case, the amount of co-financing that might be forthcoming from interested co-financiers such as Black Sea Trade and Development Bank, or several commercial Romanian banks is estimated at a total of US\$13.5 million over 8 years. Assuming that these funds are not available for revolving, they would increase the overall amount of energy efficiency investments by US\$16 million. This would lead to increased energy savings and carbon reduction over the baseline of 148 million GJ and 2.3 million metric tons, respectively. The contingent grant would thus be a negative 1.1 million, leading to an incremental GEF cost of US\$0.65 per metric ton of carbon avoided.

Critical Assumptions. Project loans are divided into three categories: short term, medium term and long term. The short-term project loans are for \$200,000 and have a 1-year payback period with a 3-month grace period for repayment. Medium term projects are \$500,000, have a 2-year payback period and a 6-month grace period. Long-term projects average \$1 million in loan principal, have a 3-year payback and a 9-month grace period. Interest charges accumulated during the grace period, and are repaid as principal in this analysis. Assumptions about interest rates charged by the Fund (expressed as credit spread above LIBOR) according to the riskiness of the project and default rates for each loan type in the reference case are presented in Table A.

TableA:CreditSpreads,InterestRatesandDefaultRates

Projects	ShortTerm	ShortTerm	Medium Term	Medium Term	LongTerm	LongTerm
	<i>CreditSpread</i>	<i>DefaultRate</i>	<i>CreditSpread</i>	<i>DefaultRate</i>	<i>Credit Spread</i>	<i>Default Rate</i>
A(LowRisk)	3.5%	1%	5.5%	3%	8.5%	5%
B(MediumRisk)	5.5%	5%	8.5%	5%		
C(HighRisk)	8.5%	7%				
All-inInterstrate:	<i>Annual</i>	<i>Quarterly</i>	<i>Annual</i>	<i>Quarterly</i>	<i>Annual</i>	<i>Quarterly</i>
A(LowRisk)	8.5%	2.1%	10.5%	2.6%	13.5%	3.1%
B(MediumRisk)	10.5%	2.6%	13.5%	3.1%		
C(HighRisk)	13.5%	3.1%				

SensitivityAnalysis .Inadditiontothebasecaseandthereferencecase,severalotherscenarioswererun todeterminetherobustnessofFundperformance,andtoidentifykeyvariableswhichimpactFund performance.ThekeyvariableswhichhavethemostimpactonthetotalreturnoftheFundarethecredit spreads,defaultratesandnumberofloansmade(seeTableB).Highinitialdisbursementgreatly improvesFundperformanceandquickensustainability,thusdevotingssufficientTAto developmentof theinitialpipelineofgreatimportance.ThecostsoftheFundManagercangreatlyimpactfund performance,but,asdeterminedafterthepre-appraisalmission,thesecostswillbelimitedtoamaximum of\$300,000peryearforthefirstthreeyears.Sensitivityanalysiswaspreformedtotesttheimpactof higher(\$500,000/year)andlower(\$200,000)FundManagercostsforyears4-8.

TableB:SensitivityAnalysis

	FinalValueFund (\$million)	NPVFundAssets Year8	Sustainabilityin Year...
BaseCase(nocofinancing)	13.0	8.8	3
ReferenceCase(with co-financing*)	13.4	9.1	3
HighFMCosts	12.4	8.4	4
LowFMCosts	13.3	9.0	3
HighInitialDisbursement (\$9.8mil.years1&2)	13.5	9.2	3
LowInitialDisbursement (\$3.1mil.years1&2)	12.8	8.6	3
FMBonusreducedby50%	13.6	9.2	3
HighReturnScenario**	15.3	10.4	3
LowReturnScenario***	9.0	6.1	---

Notes:

*Thisscenarioassumesco-financingof\$13.5millionoverthelifetimeoftheprojectandthatfeesarepaidtoFM(fromend-usersandthe co-financier)at3.5%ofco-financedloanamount.

**Assumingco-financingof\$13.5million,lowFMoverheadcostsyears4-8,increasedcreditspreads(short@5%,7%,9%,medium@ 7%,9%,long@9%),defaultratesreduced50%,acceleratedprojectdisbursement(\$9.8millioninyear1&2),andhigheryearly disbursementsforyears4-8(\$6.6mil)duetohigheravailablecashbalance.

***AssuminghighFMCostsyears4-8,noco-financing,decreasedcreditspreads(short@2.8%,3.8%,5.3%,medium@3.8%,5.3%, long@5.3%),defaultratesincreasedby100%,reducedprojectdisbursement(\$3.1millionyears1&2),reducedyearlydisbursementfor years4-8(\$4.9million)duetoloweravailablecashbalance.

Finder'sFee .Theprojectincludesafinder'sfeeof1%ofthetotalvalueoftheloanpayableupondeal closure.Paymentofthisfeehasbeenincludedinthemodelasavariablexpensebaseduponproject

deal flow. This option will improve likelihood of project success by providing incentives for deal origination by end-users (to defray cost of identification and appraisal of potential investments) or for third parties whom may play a very important role in populating the project pipeline. This fee should not be paid for those projects which have received GEFTA for project preparation.

Level of Contingent Grant. The final value of the GEF contingent grant (and thus the incremental cost) will not be known until project completion. Under the basecase scenario, the contingent grant amount (i.e., initial GEF capitalization less the value of funds returned to FREE for future GEF operations in Romania) is negative \$807,000, meaning that the total cost to GEF (including the full \$2 million as TA grant) is \$1.19 million. Sensitivity analysis shows that the range of final grant amounts varies from negative \$2.4 million (i.e., the project yields a net profit after repaying initial GEF capitalization funds of \$8 million and the \$2 million TA grant) to \$3.9 million, although lower bound scenarios have been identified which show that the amount of the contingent grant can equal the entire amount of the GEF fund capitalization and TA expenditure of \$10 million (such as several catastrophic default on large loans). However, it is foreseen that the project will be cancelled prior to full loss of the GEF contingent funds if intermediate indicators demonstrating poor outlook for success are apparent.

Energy Savings and Carbon Reductions. The \$39.4 million in energy efficiency financing from FREE in the basecase will reduce energy consumption of Romanian end-users by 114 million GJ (electricity, coal and natural gas). This translates to 1.8 million metric tons of avoided carbon for the efficiency projects financed during the eight years of project implementation.

Incremental Cost. Without GEF involvement, the baseline scenario includes a certain level of Romanian investment in energy efficiency financed from enterprise internal funds and donor assistance, but large scale market-based energy efficiency investment will remain suppressed, as the basic problems which have historically impeded investment remain unsolved. Certain industries with access to foreign credit (i.e., well-performing Romanian subsidiaries of foreign-owned firms) can secure funds at very favorable terms and conditions to undertake energy efficiency investments in the absence of the Fund, and industries can finance lower cost rapid payback energy efficiency measures from internal sources. Survey analysis has shown that this has occurred only for a few select market segments (metals and other industries where energy is a high percentage of value of final goods). Furthermore, most investment was focused on lower cost measures (under \$75,000) with rapid payback.

In the absence of the GEF project, Romanian businesses included in the project universe can be expected to make investments in energy efficiency of \$5.5 million per year, totaling \$44.5 million for the 8-year horizon of FREE's activities. This represents energy savings under the baseline scenario of 107 million GJ of saved energy, and avoided carbon emissions of 1.7 million metric tons. The GEF basecase shows an increase in investment in EE of \$45.2 million over the baseline scenario. As Table C shows, the total cost of the project in the basecase is \$1.19 million, and the incremental GEF cost per metric ton carbon avoided is **\$0.69**. For the reference case scenario, the increased investment results in higher energy savings and avoided carbon emissions, reducing the incremental cost per metric ton carbon avoided to **\$0.65**.

Table C: GEF Incremental Cost in the Base Case (no cofinancing)

	Baseline	GEF Case	Increment
Domestic Benefit	Some improvement in energy intensity from energy efficiency investments financed through internal sources or through foreign credit (107 million GJ in energy savings)	Accelerated level of improvements in energy intensity (216 million GJ in savings total), elevated amount of commercial investment in energy efficiency	109 million GJ of avoided energy consumption
Global Environmental Benefit	Baseline will produce reductions of 1.7 million metric tons Carbon from improved efficiency	GEF case will lead to an additional \$45.2 million in energy efficiency investment that would not have occurred otherwise. Total carbon reductions from EE in Romania are 3.4 million metric tons of carbon	1.7 million metric tons Carbon
<i>Costs (US\$ million)</i>			
TACosts	0	2	2
Contingent Grant	0	-0.807	-0.807
Total	0	1.19	1.19

Note on Baseline Calculation . The estimate of energy savings under the baseline scenario was derived from the level of identified energy efficiency investments for the target market segment in the past three years, projected over the eight-year lifetime of the project. Completed data on past and projected investments in energy efficiency was unavailable. Therefore, the baseline has been derived from both the Market Analysis and the results of a detailed survey of 30 Romanian companies that have already undergone detailed energy audits in the past few years (see annex 11). These companies represent the portion of the market that is most aware of the benefits of energy efficiency investments and therefore more likely to finance efficiency investments in the absence of the GEF program by mobilizing internal resources, commercial loans, or securing financing from other sources. Based upon ratio and total amount of implemented versus identified energy efficiency projects for the survey responses extrapolated to a larger population of 128 companies (Top 500 companies in Romania excluding loss-making enterprises and trading companies), excluding the data from one outlier, the baseline assumes that Romanian enterprises would invest \$5.5 million annually in energy efficiency. The implementation rate for the larger population was assumed to be one-half the implementation rate of the sample sized due to the lack of energy efficiency awareness and interest in the larger sample. Of the \$5.5 million, \$2 million total investment over the next 8 years is expected to be provided by FREE, as most baseline

investments are for projects whose costs are too small (under \$75,000) or too large (over \$3 million) for consideration by FREE. Thus the incremental benefits of the project are produced from the \$47.2 million in total investment less the \$2 million from the baseline. This analysis shows that FREE would indeed fill a gap, providing financing for energy efficiency improvements to clients who have currently no access to commercial financing.

Energy efficiency investments in other sectors which have not been included in the potential market for the Fund during the initial period of implementation (district heating, public buildings, commercial buildings, schools and hospitals) have been excluded from the baseline analysis. Thus the energy efficiency investments projected for the next 8 years from other initiatives (e.g., EBRD) are not accounted for in the baseline or in the GEF case.

Conclusions. FREE requires a large deal flow in order to generate sufficient revenues to recover overhead and operating costs in the first years of the project. Co-financing will allow the Fund to defray the losses from the initial years of operation, to mitigate exposure and spread risk over a wider portfolio of loans, to minimize the level of the GEF contingent grant amount and, most importantly, to generate sufficient momentum to ensure sustainability in the market for energy efficiency financing in Romania.

Annex5: FinancialSummary
ROMANIA: EnergyEfficiency

NOTAPPLICABLE

Annex6(A): ProcurementArrangements

ROMANIA: EnergyEfficiency

Procurement

The procurement of goods and services of the Bank financed components would be procured in accordance to the Bank procurement guidelines. The project components not financed by the Bank would be procured in accordance with the national regulations or the co-financing institutions procurement regulations. The project elements, their estimated cost and procurement methods are summarized in Tables A and A1 of Annex 6. A procurement plan detailing the packaging and estimated schedule of the major procurement actions is presented in Table D of Annex 6. All other procurement information, including capability of the implementing agency, date for publication of GPN and the Bank's review process is presented in Table C of Annex 6.

Procurement of goods/works/consultants' services under the sub-loans will be conducted by the final recipients using commercial practices on the basis of at least three quotations. First two contracts, and all subsequent contracts above US\$1 million will be subject for the Bank's prior review. Other contracts will be subject for ex-post review.

The main procurement activity in this project is selection of the Fund Manager, which will be conducted by FREE on the basis of the Bank's Guidelines for Selection of Consultants. During pre-appraisal, a procurement strategy has been developed, including a draft RFP, a draft performance contract and evaluation criteria. The procurement process has already started with the publication of the request for Expression of Interest (EoI) in the Development Business issue of December 16th, 2001. Six firms out of 28 who had expressed interest were shortlisted and invited to bid. Bids are under evaluation by FREE, and it is anticipated that hiring of the Fund Manager will be completed by September/October 2002.

Besides selection of the Fund Manager, procurement activities under this project will be minor. FREE will select and hire consultants to assist with training, outreach, business development, monitoring and other activities. Selection of the consultants (firms and individuals) will be carried out in accordance with the latest edition of the World Bank Guidelines for Procurement under IBRD loans and IDA Credits, and using the Bank's Standard Bidding documents as applicable. Operating expenses of FREE will be financed under incremental operating costs category with procurement based on the annually approved budget and using competitive selection wherever possible.

During the pre-appraisal mission, the Bank's procurement specialist conducted a training session for the selected Executive Director of FREE who will be directly involved in the procurement work. To enhance the capacity of FREE to select the Fund Manager, a short-term procurement consultant (advisor) was engaged by FREE, assisting in the preparation of the RFP, conducting of the pre-bid conference, evaluation of proposals, negotiations and signing of the contract. The procurement advisor's contract, estimated at about \$6,400 would be financed retroactively from the final GEF grant. Considering the low amount of procurement work, these arrangements ensure adequate procurement capacity of FREE. Also FREE board members' fees and initial setup costs will be financed retroactively with the total amount of retroactive financing not to exceed US\$60,000.

The Bank will review, regardless of value, terms of reference, RFPs, evaluation reports and draft contracts of all consultants financed by the Bank. Expenditures under the incremental operating costs category will be reviewed annually.

Procurement methods (Table A)

InsertHardCopiesofProcurementTables

Priorreviewthresholds(TableB)

Annex6(B)FinancialManagementandDisbursementArrangements ROMANIA:EnergyEfficiency

FinancialManagement

1.SummaryoftheFinancialManagementAssessment

1.ExecutivesummaryandConclusion

TheProjectistobeimplementedbythenewlyestablishedFREE.TheFREEBoardofAdministration(BoA)willoverseeimplementationoftheProject,provideoverallguidance,suggestchangestothedesignoftheprojectduringimplementationifmonitoringandevaluationassessmentsindicatetheneedforcorrection,andensureharmonizationoflocalandnationalpriorities.

PriortoBoardpresentation,aWorldBankaccreditedFinancialManagementSpecialistwillperformadetailedassessmentofthesysteminaccordancewiththeBank'sOP/BP10.02andtheWBFMrequirements.TheresultoftheassessmentwillhavetodemonstratethattheProjectsatisfiestheminimumWBfinancialmanagementrequirements.

FREEisabletooffermarketlevelremunerationandhasthusattractedqualifiedpersonsforitsstaff.The newlyselectedFinancialControllerisalsoexperiencedinfinancialmanagement,planning,controland treasuryaspects.Asanewandsmallorganization,FREEinfactwouldbeabletoadopttheBank'sFMS requirementsfullywithoutdifficultiesandwouldthusbeabletohavebettercontroloverfinancial matters.Currently,thefinancialmanagementarrangementsfortheProjectdonotsatisfytheWB minimumFMrequirementsasthesystemsandproceduresarestilltobedeveloped.Afinancial managementactionplanwasdevelopedandwillbeagreedwiththeBorrowerduringnegotiationsto furtherstrengthenthefinancialmanagementarrangementsoftheProject.

Asummaryofthestatusoffinancialmanagementassessmentandconclusionsareasfollows:

2.Projectdescriptionsummary

GEFfinancingofUS\$10millionhasbeenapprovedunderOperationalProgram5tosupportthe establishmentandoperationofanEnergyEfficiencyProjectDevelopmentandFinancingFacility.This facilitywillbeoperatedundertheRomanianEnergyEfficiencyFund(FREEortheFund)thathasbeen setupasanindependent,autonomouslegalentityinaprivate-publicpartnership.GEFfundswillbeused tocapitalizetheFundandpartiallydefrayinitialtransactioncosts.

AlthoughthefundingwillinitiallycomemostlyfromGEF(publicfunds),itisimportantthatFREEbe independentandseparatefromanygovernmentagency.TheFundisoverseenbyaBoardof Administration(BoA)consistingofmembersfrombothpublicandprivatesectors.FREEisadministered byasmallprofessionalmanagementteam,headedbyanExecutiveDirector,includingaFinancial Controller.FREEwillenterintoaperformancecontractwithaprofessionalfundmanagementfirm whichwillmanagetheinvestmentaspectsinacommercialmanner,inchargeofselectingwhichprojects tofinancetoassureasoundportfoliointermsofsectors,risksandterms.TheFundseekstomakea profit,withinvestmentfinancingtoclientsoncommercialterms.GEFresourceswouldrevolve,andthe Fundisdesignedtobeself-sustainingafteraninitialperiodofthreeyears.

Activepartnershipswithcommercialfinancinginstitutions,leasingcompaniesandenergyservice companies(ESCOs)willbestronglyencouraged.Inadditiontofinancialservices,theFundwouldoffer itsclientsexpertiseinenergyefficiencytosupporttheminprojectdevelopmentandfinancialpackaging. TechnicalassistancefromtheGEFcontributionanddonorfundswillprovidesupportforthelatter.

3.CountryFinancialManagementIssues

ThefirstCountryFinancialAccountabilityAssessmentforRomania willbecarriedoutinlate2002–

early 2003.

A summary of key country financial management issues in Romania is given below:

Based on the findings of the detailed assessment, specific measures to mitigate any risks impacting the project would be agreed with FREE for implementation.

4. Financial Management System Assessment

4.1 Project Management and Coordination

The newly established FREE has been staffed with an executive director. The appointment of the finance manager is currently in progress and will be finalized by negotiations, as it is a condition for Board presentation. The Government, through the FREE will establish and will maintain a project financial management system (FMS) in a format acceptable to the Bank and in accordance with OP/BP 10.02 and WB Financial Management requirements. The FREE will be responsible for the project's overall financial management system. All financial management and disbursement procedures for the Project will be centralized at the FREE and be in accordance with the relevant Bank guidelines.

4.2 Staffing of the Accounting/Finance Function

The FREE has now completed the nomination process and has an executive director. The finance manager will be appointed by negotiations and will handle all financial accounting records, ensure that accounting records are kept up to date within the accounting software and will be in charge of the petty cash arrangements. The finance manager will be responsible for the planning, budgeting, auditing and reporting aspects, reporting to the FREE director. The finance manager will also establish permanent contacts with the accounting department of the MoIR, auditors and the MOF.

Training for the finance manager will be needed, mainly on the Bank's financial management and disbursement procedures. It is advisable that the training is offered in the very early stage of the project (either before and/or shortly after effectiveness).

4.3 Accounting and Internal Controls

The FREE will maintain the project accounts in accordance with the Romanian statutory accounting standards and will report to the World Bank and to the Government. The FREE will maintain all documentation related to project expenditures and keep financial records in accordance with sound accounting practices. The FREE will be responsible for keeping the full accounting records of the Project, in charge of all payments, operating the accounting software, handling the Special Account (SA) and the Project Accounts (other development partners contributions), reporting both to the Bank and the Government, planning, budgeting, disbursement and auditing.

All the original project documents, contracts, payment orders, bank statements and all other relevant accounting documents will be kept by the FREE, filed on a timely basis and organized in a manner to ensure the full audit trail with the accounting software records.

The FREE's key staff (executive director and finance manager) will be responsible for developing detailed financial statements, reporting formats and methods, internal control procedures, disbursement and flow of funds arrangements, assigned staff responsibilities in order to ensure a complete segregation of duties.

The FREE will be fully in charge of all payments, disbursement, reporting, accounting, planning,

budgeting and auditing relating to the Project. All the original project documents, contracts, payment orders, bank statements and all other relevant accounting documents will be kept by the FREE, filed on a timely basis and organized in a manner to ensure the full audit trail with the accounting software records.

Detailed accounts will be kept for each project component and its sub-components. The accounts also reflect: the status of payment against each contract; utilization of the Special Account (SA) and replenishments made by the Bank; utilization of the other sources of funding and uses of the funds. The FREE will prepare reports showing detailed budgeted and actual expenditures, uses of funds by source, summary of withdrawals and forecasts, statements of progress achieved to date and the objectives for the forthcoming quarter and semester. The FREE will submit the quarterly Financial Monitoring Reports (FMRs) to the Bank starting with the period ended September 30, 2002 and quarterly thereafter, no later than 45 days after the relevant quarter's end.

4.4 Computerized Accounting System

The project accounting and reporting software system will have to be developed, customized and installed by the financial management consultant to be selected, in order to respond to the Terms of Reference agreed between the WB and the FREE. The system will be designed to fully respond to the specifics of the Project. The system will feature a customized chart of accounts, detailed financial statements, reporting formats and methods, etc. The system must be able to produce all the Financial Monitoring Reports as required by the WB. The system must produce a trial balance, balance sheet, a statement of sources and uses of funds, income and expenditure statement, special and project account statements.

Usual journals and ledgers should also be produced by the system, such as separate journals for works, goods, consulting and training, and operating costs. The system also normally features the bank accounts ledger, the accounts receivable and accounts payable ledgers, the general ledger and a fixed assets register.

4.5 Audit arrangements

The project annual financial statements will be audited each fiscal year in accordance with Bank guidelines, by independent auditors acceptable to the Bank. Conclusion of a contract with selected auditors, satisfactory to the Bank, will be a dated covenant in the Grant Agreement (by 30 September 2002). Copies of the audit reports will be submitted to the Bank within six months of the close of the fiscal year (calendar year). The audit report will cover the Project financial Statements, Special and Project Accounts' Statements, as well as all the Statement of Expenses (SOEs). In addition, the audit shall include on the portfolio and net asset value of FREE's revolving fund account.

4.6 Planning and Budgeting

The FREE will prepare reports showing detailed budgeted and actual expenditures, uses of funds by source, summary of withdrawals and forecasts, statements of progress achieved and the objectives for the forthcoming quarter and semester.

Detailed accounts will be kept for each project component and its sub-components. The accounts also reflect: the status of payment against each contract; utilization of the Special Account (SA) and replenishments made by the Bank; utilization of the other sources of financing and uses of the funds. The FREE will submit the quarterly FMRs to the Bank starting with the period in which disbursements will commence, most likely the quarter ending on September 30, 2002 and quarterly thereafter, no later than 45 days after the relevant quarter's end. The budgeting and financial forecasting are an integral part

in the process of preparing the FMRs.

4.7 Financial and Accounting Procedures Manual

The FREE will adhere to sound internal control procedures and practices, to ensure that the Project funds are used with economy and efficiency and only for the purposes intended. The FREE will report to the BoA and relevant Ministers and will inform in a timely manner about project implementation and progress.

The FREE staff must become familiar with the WB regulations (legal, disbursement, financial management, etc.) applicable to their relevant area. A Financial and Accounting Procedures Manual will have to be developed by the FM consultant in cooperation with the FREE director and finance manager, documenting all the various types of financial transactions, approval and authorization steps, the flow of documents within the FREE and between the FREE, fund manager and the beneficiaries, the accounting department of the MoIR, to the MOF, the FREE staff responsibilities and measures to ensure a complete segregation of duties, as well as other internal control procedures. The manual will also document the day-to-day internal procedures for each type of activity (such as correspondence handling, contracting and payment procedures, operation of all bank accounts, petty cash, authorization mechanism, reporting, budgeting, planning, filing, etc.). FREE's accounting and financial management policies would be incorporated into its Operational Manual, which would be approved by the Bank before Board presentation.

4.8 Conclusion

Currently, the financial management arrangement for this Project does not satisfy the minimum WB financial management requirements. However, it is expected that before Board presentation the financial management arrangements of the Project will satisfy the minimum WB financial management requirements because:

The FREE will implement an acceptable computerized accountings system for the Project;

Ø The FREE will develop a detailed financial, accounting and internal control manual describing the accounting policies and procedures, internal controls, delegation of responsibilities and authorities, transaction flows, reporting, planning and budgeting;

Ø The FREE will have a finance manager acceptable to the Bank;

Ø The FREE will contract independent external auditors, acceptable to the WB (dated covenant in the Grant Agreement, by 30 September 2002).

5. Flow of Funds

The Grant Agreement will be signed between the World Bank (GEF) and the Romanian Government, through the MoF. The MoF will then sign a subsidiary grant agreement with the FREE, giving full rights to FREE to use the grant proceeds in accordance with grant and implementation agreements with the WB.

The FREE will handle the Grant amounts through the Special Account (SA). The SA will be opened at a commercial bank, acceptable to, and in accordance with WB requirements.

Other sources of financing will be received in a separate project account, that will just be used specifically for the development partners' contribution to the project.

The FREE will have the full right to operate both the special and the project accounts. All documentation pertaining to the project (relating to Grant funds and to the other sources of financing

received from other donors as applicable) will be kept at the FREE.

6. Financial Monitoring Reports

The FREE will maintain accounts of the Project and will ensure appropriate accounting of the project funds. The format of appropriate financial monitoring reports (FMRs) will be finalized and agreed with the Grant recipient by negotiations.

The FREE will prepare the FMRs on a quarterly basis. The FMRs will include:

- Project Sources and Uses of Funds
- Uses of Funds by Project Activity
- Special Account Statement
- Physical Progress Reports
- Procurement Monitoring Reports

7. Financial Risk Analysis

From a financial management perspective, the proposed Project is considered a substantial-risk project, but measures to mitigate these risks are feasible and practical given the design and nature of this project. A summary of the consolidated risk assessment for the project is presented below, as follows:

8. Costs and financial performance

The project's financing plan, which includes the GEF Grant, and the project's planned expenditures, have been realistically estimated. In order to facilitate the implementation, the project's cost tables include an appropriate cost matrix, which adequately shows the relationship between the Grant agreement categories and project components.

9. Auditing Arrangements

For Bank reporting purposes, the annual financial statements of the project will be prepared in accordance with cash accounting, which is a basis of accounting other than International Accounting Standards (IAS) and audited by independent auditors, acceptable to the Bank, in accordance with the International Standard on Auditing (ISA) and the Bank guidelines on auditing and financial reporting such as the World Bank Financial Accounting Reporting and Auditing Handbook and the World Bank Project Financial Management Manual. The cost of the audits are to be financed from the Grant.

The FREE will start shortly the procurement activities related to the selection of independent auditors in accordance with the World Bank guidelines. A Request for Proposals will be prepared by the FREE and will be sent to the World Bank for no objection in accordance with the Financial management action plan (attached). The auditor's shortlist will be finalized and included in the RFP that will be sent to the WB for no objection.

10. Impact of procurement arrangements

The internal control manual will detail the procurement procedures in a separate section of the manual and establish the links between procurement and financial management/disbursements procedures.

11. Grant Agreement covenants

The following are the covenants relating to financial management matters:

- The FREE will complete the agreed financial management action plan for strengthening the project financial management system by September 30, 2002.
- Not later than October 31 of each year, the FREE will furnish WB the annual project implementation work programs for the next year, including procurement and financing plans, and will review these plans with WB before implementing them.
- The FREE will submit to WB, commencing upon Grant effectiveness, quarterly Financial Monitoring Reports, not later than 45 days after the end of each quarter outlining progress made in the implementation of each project component, as well as the problems encountered and how they are being addressed.
- The FREE will have the Project financial statements audited each year, by independent auditors acceptable to the WB, commencing with the accounts for the year ending December 31, 2002.

12. Supervision Plan

The development for further strengthening the financial management system will be monitored before effectiveness, during the first supervision missions and throughout the project implementation.

The reports of the progress of the project implementation will be monitored in detail during supervision missions. The FMRs will be reviewed on a regular basis by the field-based FMS and the results or issues followed up during the supervision missions. Financial audit reports and management letters of the project will be reviewed and issues identified and followed up. The field-based FMS would monitor the agreed action plan to ensure appropriate actions have been implemented by the FREE.

2. Audit Arrangements

As noted in FMS section above

3. Disbursement Arrangements

Most of the disbursements are expected to be made from the Special Account due to the small size of payments and the nature of operation (FI). The use of Statement of Expenditures (SOEs) would be allowed as noted herein. The Financial Controller of FREE would be trained in Bank procedures and requirements before start of the Project, including in the preparation of quarterly Financial Monitoring Reports. The disbursements under the various categories are described below.

Disbursements towards sub-loans (Fund investments under category 1) will be made against sub-loan agreements approved by FREE's BoA. It is expected that borrowers would contribute at least 20% of the costs of their projects. Disbursements toward Fund Manager retainer fee (category 2) would not be made on the basis of SOEs. Disbursements toward technical assistance and consultancy contracts (category 3) would be made on the basis of SOEs, subject to a threshold of US\$50,000 for firms and US\$20,000 for individuals. Disbursements toward incremental operating costs of FREE (category 4) would be made against SOEs and the maximum limit each year would be 100% in first year; 90% in second year; 75% in third year; 50% in fourth year and zero thereafter. Disbursements are expected to be direct payments from the Bank only in the case where FREE's clients and consultantsexpress preference for this procedure because of nationality of supplier or the size of the contract.

Allocation of grant proceeds (Table C)

Table C: Allocation of Grant Proceeds

Expenditure Category	Amount in US\$ million	Financing Percentage
Subloans	8.00	100
Fund Manager	0.90	100
Consultancy Services	0.54	100
Incremental Operating Costs	0.56	100 in first year; 90 in second; 75 in third; 50 in fourth; 0 afterwards
Total Project Costs	10.00	
Total	10.00	

Use of statements of expenditures (SOEs):

SOEs would be allowed as noted in the disbursements section above.

Special account:

FREE would open a Special Account in a commercial bank acceptable to the World Bank. The initial deposit into the Special Account would be US\$1.0 million. FREE would be allowed to replenish up to an authorized allocation of US\$1.6 million when the disbursements and commitments reach US\$1.7 million. During the first year, total disbursements toward technical assistance would be about US\$600,000 and disbursements toward sub-loans are expected to be about \$1.6 million (against a commitment of US\$2.0 million).

**Annex7:ProjectProcessingSchedule
ROMANIA: EnergyEfficiency**

ProjectSchedule	Planned	Actual
Timetaken to prepare the project (months)		
First Bank mission (identification)	02/01/2000	
Appraisal mission departure	03/04/2002	
Negotiations	03/04/2002	
Planned Date of Effectiveness	11/01/2002	

Prepared by:

Romania Energy Efficiency Project Working Group

Preparation assistance:

Consultants funded under GEF PDPB grant

Bank staff who worked on the project included:

Name	Speciality
Varadarajan Atur	Program Team Leader
Robert Taylor	Lead Energy Specialist/Thematic Group Leader
Anke Meyer	Energy Efficiency Specialist (Consultant)
Doina Visa	Private Sector Development Specialist
Bernard Baratz	Principal Environmental Specialist
Irina Kichigina	Legal Adviser
Nightingale Rukuba-Ngaiza	Legal Adviser
Bogdan Constantinescu	Financial Management Specialist
Leonid Vanian	Procurement Accredited Specialist
Nicholay Chistyakov	Senior Disbursement Officer
Jeremy Levin	Alternative Energy Specialist
Rozena Serrano	Program Assistant

Annex8: Documents in the Project File*

ROMANIA: Energy Efficiency

A. Project Implementation Plan

B. Bank Staff Assessments

C. Other

GoR Ordinance establishing FREE

FREE Launch Workshop Materials

QER Reviewer Reports and Minutes of the QER Meeting, September 19, 2001

Consultants' Reports

Market Assessment:

- Market Surveys Summary Report
- Market Survey Draft Final
- Energy Efficiency Technologies and Market Size
- Markets for Energy Efficiency Technologies: steam traps, air compressors, inverters and vds, high efficiency motors, boilers (separate reports)
- Case Studies: Mobihar, Pasmatex, Sinterom, SCRAAL, Subex
- Market Surveys

Financial aspects

- FREE Financial Model
- Research on the banking products and services of the commercial banks from Romania as of 31.12.1999, plus update of 13.1.2002
- Fund Structure from a financial perspective
- Marketing to the Financial Sector (blue report)
- Cofinancing Report

Fund Manager

- TOR
- Fund Manager Agreement

Energy Efficiency and related Funds in CEECs and elsewhere

Performance Indicators for the Romanian Energy Efficiency Fund

Draft Operational Manual of FREE

*Including electronic files

Annex9: Statement of Loans and Credits

ROMANIA: Energy Efficiency

02-May-2002

ProjectID	FY	Purpose	Original Amount in US\$ Millions			Cancel.	Undisb.	Difference between expected and actual disbursements ^a	
			IBRD	IDA	GEF			Orig	Frm Rev'd
P068808	2002	SDF2(APL#2)	20.00	0.00	0.00	0.00	20.00	0.00	0.00
P066065	2002	AGPOLLUTIONCONTROL(GEF)	0.00	0.00	5.15	0.00	5.08	0.04	0.00
P057960	2002	RURALDEV(APL#1)	40.00	0.00	0.00	0.00	40.00	0.00	0.00
P056891	2001	RURALFIN(APL#1)	80.00	0.00	0.00	0.00	80.00	4.00	0.00
P008783	2001	SOCSECTDEV(SSD)	50.00	0.00	0.00	0.00	49.70	11.15	0.00
P008797	2000	HEALTHSECTORREFORM	40.00	0.00	0.00	0.00	16.14	0.14	0.00
P043882	2000	AGRSUPPORTSERVS	11.00	0.00	0.00	0.00	9.81	2.64	0.00
P056337	2000	MINECLOSURE	44.50	0.00	0.00	0.00	40.93	29.59	0.00
P065041	2000	TRADE&TRANSFACILINSEEUR	17.10	0.00	0.00	0.00	15.15	-1.95	0.00
P058284	1999	CULTURALHERITAGE	5.00	0.00	0.00	0.00	4.02	3.96	0.23
P039251	1999	PIBL	25.00	0.00	0.00	1.10	13.65	12.09	0.00
P044176	1999	BIODIVCONSVMGMT(GEF)	0.00	0.00	5.50	0.00	3.65	2.72	0.00
P034213	1998	GEN'LCADASTRE	25.50	0.00	0.00	0.00	22.52	15.36	0.17
P008788	1998	TELECOMMUNICATION	30.00	0.00	0.00	7.00	13.08	19.88	9.97
P055495	1998	CHILDWELFAREREFORM	5.00	0.00	0.00	0.00	2.01	1.93	0.00
P044614	1998	SCHOOLSREHABILITATION	70.00	0.00	0.00	0.00	35.80	29.57	-4.87
P008793	1997	HIGHEREDUCATION	50.00	0.00	0.00	0.00	8.55	8.55	3.88
P039250	1997	SECONDRoads	150.00	0.00	0.00	0.00	19.05	-8.45	0.00
P008794	1996	POWERSECTORREHAB	110.00	0.00	0.00	33.50	58.98	92.48	89.66
P036013	1996	RAILWAY	120.00	0.00	0.00	0.00	22.90	22.90	0.00
P008776	1995	EMPLYMT&SOCPROTECTION(ESSP)	55.40	0.00	0.00	0.00	26.78	26.78	0.00
P008777	1994	PETROLSECTREH	175.60	0.00	0.00	0.00	68.91	68.91	-55.54
Total:			1124.10	0.00	10.65	41.60	576.67	342.27	43.49

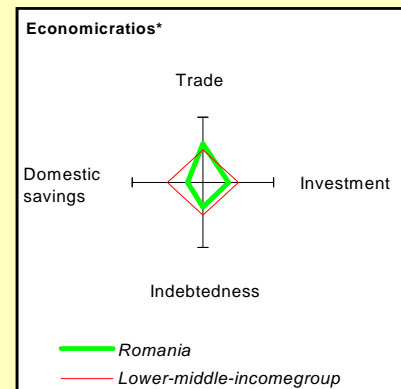
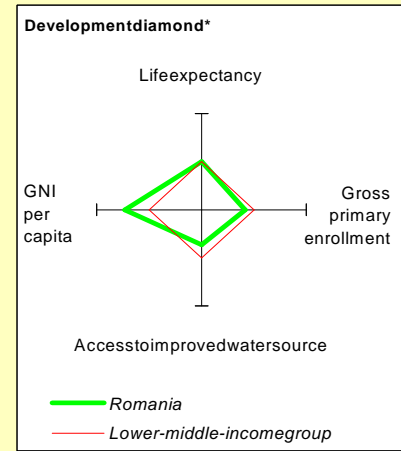
ROMANIA
STATEMENT OF IFC's
Held and Disbursed Portfolio
Jan-2002
In Millions USDollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
1998	FCR Fund	0.00	10.00	0.00	0.00	0.00	10.00	0.00	0.00
1998	Garanta	0.00	0.60	0.00	0.00	0.00	0.30	0.00	0.00
2001	ICME	12.93	0.00	0.00	0.00	5.17	0.00	0.00	0.00
1998	Krupp Compa	4.64	0.00	0.00	1.99	3.56	0.00	0.00	1.53
1997/00	Mobil Rom	2.14	0.00	0.00	2.86	2.14	0.00	0.00	2.86
1997	Rambox	1.07	0.00	2.00	0.00	1.07	0.00	2.00	0.00
1994/98/01	Romlease	4.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
1999	Ambro	7.24	0.00	0.00	0.00	4.65	0.00	0.00	0.00
1998/02	Banc Post	0.00	0.00	10.00	0.00	0.00	0.00	10.00	0.00
2001	Banca Romaneasca	5.92	0.00	0.00	0.00	5.92	0.00	0.00	0.00
1998	Bilstein Compa	1.32	0.00	0.00	1.32	1.32	0.00	0.00	1.32
1996	Danube Fund	0.00	2.00	0.00	0.00	0.00	2.00	0.00	0.00
1998	Demir Romania	2.86	2.55	0.00	0.00	2.86	2.55	0.00	0.00
1997	Efes Brewery	5.79	0.00	0.00	4.00	5.79	0.00	0.00	4.00
	Total Portfolio:	47.91	15.15	12.00	10.17	33.48	14.85	12.00	9.71

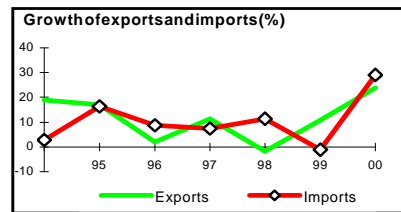
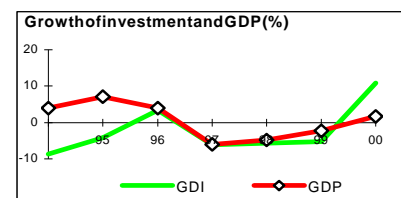
FY Approval	Company	Approvals Pending Commitment			
		Loan	Equity	Quasi	Partic
2001	Kronospan Rom	30.20	0.00	0.00	45.73
	Total Pending Commitment:	30.20	0.00	0.00	45.73

Annex10:CountryataGlance ROMANIA: EnergyEfficiency

POVERTYandSOCIAL	Europe& Central Asia		Lower-middle-income		
	Romania	Asia			
2000					
Population, mid-year (millions)	22.4	475	2,046		
GNI per capita (Atlas method, US\$)	1,670	2,010	1,140		
GNI (Atlas method, US\$ billions)	37.4	956	2,327		
Average annual growth, 1994-00					
Population (%)	-0.2	0.1	1.0		
Laborforce (%)	1.2	0.6	1.3		
Most recent estimate (latest year available, 1994-00)					
Poverty (% of population below national poverty line)	41	..	..
Urban population (% of total population)	56	67	42		
Life expectancy at birth (years)	70	69	69		
Infant mortality (per 1,000 live births)	19	21	32		
Child malnutrition (% of children under 5)	..	..	11
Access to an improved water source (% of population)	58	90	80		
Illiteracy (% of population age 15+)	2	3	15		
Gross primary enrollment (% of school-age population)	96	100	114		
Male	96	101	116		
Female	95	99	114		
KEY ECONOMIC RATIOS and LONG-TERM TRENDS					
	1980	1990	1999	2000	
GDP (US\$ billions)	..	38.3	35.2	36.7	
Gross domestic investment/GDP	39.8	30.2	17.2	19.4	
Exports of goods and services/GDP	35.3	16.7	29.0	34.1	
Gross domestic savings/GDP	35.0	20.8	12.8	13.6	
Gross national savings/GDP	..	21.5	13.5	15.1	
Current account balance/GDP	..	-4.7	-3.7	-3.7	
Interest payments/GDP	..	0.0	1.4	1.4	
Total debt/GDP	..	3.0	26.6	29.3	
Total debt service/exports	12.6	0.4	31.3	15.7	
Present value of debt/GDP	22.7	27.4	
Present value of debt/exports	79.5	80.7	
	1980-90	1990-00	1999	2000	2000-04
(average annual growth)					
GDP	0.5	-0.7	-2.3	1.6	4.0
GDP per capita	0.1	-0.4	-2.1	1.8	4.3
Exports of goods and services	..	8.5	10.8	23.9	..



STRUCTURE of the ECONOMY	1980		1990		1999		2000	
(% of GDP)								
Agriculture	..	20.3	15.0	12.8				
Industry	..	50.0	35.9	36.3				
Manufacturing	..	..	26.7	27.0				
Services	..	29.8	49.1	50.9				
Private consumption	59.9	65.9	74.4	73.9				
General government consumption	5.0	13.3	12.7	12.5				
Imports of goods and services	40.1	26.2	33.4	39.9				
	1980-90	1990-00	1999	2000				
(average annual growth)								
Agriculture	..	-0.6	3.4	-15.9				
Industry	..	-0.8	-1.6	6.2				
Manufacturing	..	-2.8	-7.1	6.2				
Services	..	-0.5	-4.6	6.7				
Private consumption	..	1.2	-3.6	1.4				
General government consumption	..	1.1	-9.4	4.2				
Gross domestic investment	..	-5.2	-5.3	10.9				
Imports of goods and services	..	6.4	-1.1	29.1				

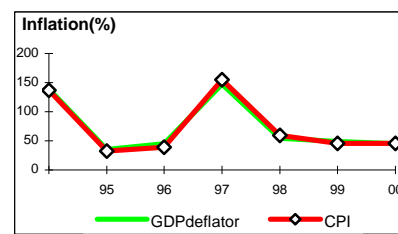


Note: 2000 data are preliminary estimates.

*The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

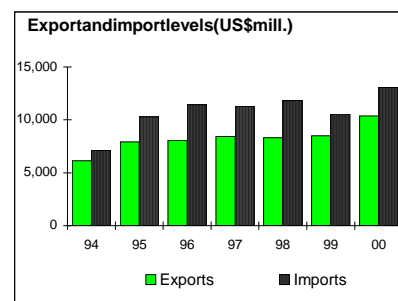
PRICES and GOVERNMENT FINANCE

	1980	1990	1999	2000
Domestic prices (% change)				
Consumer prices	..	5.1	45.8	45.7
Implicit GDP deflator	0.6	13.7	48.7	45.3
Government finance (% of GDP, includes current grants)				
Current revenue	..	39.5	32.1	31.4
Current budget balance	..	8.5	0.0	-0.6
Overall surplus/deficit	..	1.0	-3.7	-4.0



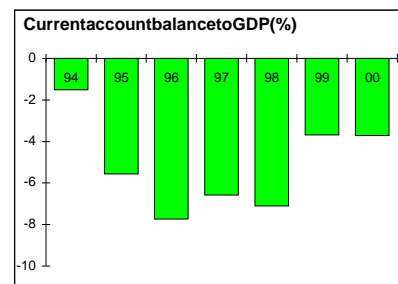
TRADE

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total exports (fob)	..	5,770	8,487	10,367
Textiles	..	944	1,310	1,658
Metals	..	1,136	502	822
Manufactures	..	3,428	5,697	6,984
Total imports (cif)	..	9,202	10,557	13,055
Food	..	1,211	795	932
Fuel and energy	..	3,896	1,251	1,830
Capital goods	..	1,958	2,903	3,767
Export price index (1995=100)	..	97	98	105
Import price index (1995=100)	..	105	101	107
Terms of trade (1995=100)	..	93	97	98



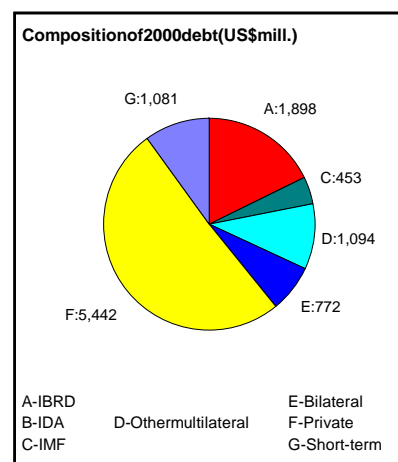
BALANCE of PAYMENTS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Exports of goods and services	12,087	4,295	9,870	12,133
Imports of goods and services	13,730	6,065	11,381	14,071
Resource balance	-1,643	-1,770	-1,511	-1,938
Net income	-777	-140	-411	-285
Net current transfers	0	107	626	860
Current account balance	-2,420	-1,803	-1,296	-1,363
Financing items (net)	2,174	157	1,469	2,291
Changes in net reserves	247	1,646	-173	-928
Memo:				
Reserves including gold (US\$ millions)	..	877	2,493	3,397
Conversion rate (DEC, local/US\$)	..	22.4	15,332.8	21,708.7



EXTERNAL DEBT and RESOURCE FLOWS

	1980	1990	1999	2000
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed	9,762	1,140	9,367	10,740
IBRD	806	0	1,662	1,898
IDA	0	0	0	0
Total debt service	1,529	18	3,138	1,953
IBRD	81	0	170	195
IDA	0	0	0	0
Composition of net resource flows				
Official grants	0	3	..	..
Official creditors	613	19	14	467
Private creditors	1,360	4	-327	1,068
Foreign direct investment	..	..	1,025	1,009
Portfolio equity	0	0	-715	110
World Bank program				
Commitments	240	0	380	68
Disbursements	239	0	315	384
Principal repayments	22	0	83	91
Net flows	217	0	233	293
Interest payments	59	0	88	104
Net transfers	158	0	145	189



Additional Annex 11: Energy Efficiency Market Analysis Summary ROMANIA: Energy Efficiency

Introduction

In order to verify the market for the Romania Energy Efficiency Fund (FREE), a detailed market assessment was carried out, investigating the overall potential for energy efficiency investments in Romania, and more critically, the immediate market for investments by the Fund.

Given the difficulty that Romania's economic transition is having on certain sectors of the economy, the market assessment has focused on what is understood to be the primary target beneficiary of the Fund's investments: those industries that can demonstrate creditworthiness and an ability to repay loans (or other financial products) that would be offered for efficiency improvements. Client companies should not have major environmental problems.

Additionally, particularly for the early years of FREE operation, it is assumed that eligible projects would be limited to those meeting certain criteria to minimize risk and maximize the potential for success. These criteria include:

- The project must have a relatively short payback time (generally under three to four years);
 - The investments should be in the range of US\$100,000 to \$1,000,000 (to minimize transaction costs on the low side, and to limit exposure from a limited number of projects on the high side);
 - At least 50% of each project's benefits have to come from energy savings (e.g., processor capacity improvements that have ancillary energy savings benefits are not eligible); and,
 - The technology must be well proven in the proposed application to avoid all technological risk.
- Within these constraints, a review has been completed of the large quantity of feasibility studies prepared in Romania over the past several years, interviews with and surveys of potential clients were carried out, and estimates of the overall market size have been prepared and are summarized in this annex.

Rationale for Industry Sectors and Technologies Selected

While there is phenomenal potential for technically and economically justified energy efficiency improvements in virtually all sectors of the Romanian economy, several sectors and subsectors of the manufacturing industry are initially targeted for FREE investments. These sectors were chosen due to their strong economic performance, level of export capacity (and the resulting hard currency income, removing currency risks), and growth potential. The candidate industries were further narrowed down by the combination of their energy savings potential, the potential for replication of projects, and having a substantial enough energy bill to warrant the minimum project size mentioned above.

It is important to note that the investment potential shown is actually in a very conservative subset of the industry sectors identified. For example, within the pulp and paper sector, we have not considered investments in pulping plants, which are struggling economically, but only considered the potential investments in some of the profitable, and growing, papermaking facilities. We then only assumed replication potential in less than half of these plants to remain conservative in the estimate. Similarly, within the cement industry, we have only considered potential investment at the two most profitable plants, while there are many others that can use the technical improvements but may not have the required ability to repay.

The technologies identified are standard energy efficiency improvements that have been demonstrated to provide lasting, reliable savings in similar facilities around the world. All of the projects identified have proven savings potential, and have been found through detailed audits and feasibility studies to be applicable to sites in Romania.

Overview of the Market

The primary target market for the first five years of FREE operation is shown in Table 1. The mix of industries and technologies shown represents low-risk investments for the early years of the Fund, both with companies that should have adequate ability to repay loans, and with technologies that are well proven. Figures 1 and 2 show the breakdown of the estimated market by industry sector and technology.

Table 1: Estimated potential for commercially viable energy efficiency investment in the industrial sector (in US\$)

Industry Sector	Boiler & Heat Distribution Retrofit			Boiler Replacement			Variable Speed Drives			New Air Compressors			Power Factor Correction		
	Investment	Energy Cost Savings	Payback	Investment	Energy Cost Savings	Payback	Investment	Energy Cost Savings	Payback	Investment	Energy Cost Savings	Payback	Investment	Energy Cost Savings	Payback
Cement							\$ 2,300,000	\$ 1,335,000	1.72				\$ 570,000	\$ 326,000	1.75
Food & Beverage	\$ 3,185,000	\$ 759,000	4.20	\$ 2,300,000	\$ 969,000	2.37				\$ 3,000,000	\$ 770,000	3.90			
Glass & Fine Ceramics	\$ -	\$ -		\$ 315,000	\$ 96,000	3.28	\$ 294,000	\$ 234,000	1.26				\$ 165,000	\$ 67,200	2.46
Machine Building	\$ 7,650,000	\$ 2,482,000	3.08	\$ 5,000,000	\$ 2,680,000	1.87				\$ 2,250,000	\$ 470,000	4.79	\$ 800,000	\$ 635,000	1.26
Oil Processing							\$ 564,000	\$ 310,000	1.82						
Chemicals	\$ -	\$ -		\$ 30,000,000	\$ 8,000,000	3.75	\$ 307,000	\$ 250,000	1.23	\$ -			\$ 1,200,000	\$ 330,000	3.64
Wood Processing	\$ 1,700,000	\$ 481,000	3.53	\$ 1,650,000	\$ 585,000	2.82				\$ 4,680,000	\$ 2,730,000	1.71	\$ 1,800,000	\$ 130,200	13.82
Pulp & Paper	\$ 5,500,000	\$ 2,400,000	2.29				\$ 20,500,000	\$ 3,335,000	6.15				\$ 744,000	\$ 112,800	6.60
Other							\$ 5,000,000	\$ 1,575,000	3.17						
Total	\$ 18,035,000	\$ 6,122,000	2.95	\$ 39,265,000	\$ 12,330,000	3.18	\$ 28,965,000	\$ 7,039,000	4.11	\$ 9,930,000	\$ 3,970,000	2.50	\$ 5,279,000	\$ 1,601,200	3.30
Industry Sector	Steam Traps			Energy Management & Controls			Process Modernization			Small Cogeneration/Turbines			Total		
	Investment	Energy Cost Savings	Payback	Investment	Energy Cost Savings	Payback	Investment	Energy Cost Savings	Payback	Investment	Energy Cost Savings	Payback	Investment	Energy Cost Savings	Payback
Cement				\$ 822,000	\$ 1,807,000	0.45	\$ 1,950,000	\$ 514,000	3.79				\$ 5,642,000	\$ 3,982,000	1.42
Food & Beverage	\$ 525,000	\$ 900,000	0.58	\$ 621,000	\$ 219,000	2.84				650,000.00	130,000.00	5.00	\$ 10,281,000	\$ 3,747,000	2.74
Glass & Fine Ceramics				\$ 142,500	\$ 182,500	0.78	\$ 6,600,000	\$ 1,150,000	5.74	225,000.00	165,000.00	1.36	\$ 7,741,500	\$ 1,894,700	4.09
Machine Building	\$ 1,200,000	\$ 690,000	1.74	\$ 472,000	\$ 730,000	0.65							\$ 17,372,000	\$ 7,687,000	2.26
Oil Processing				\$ 160,000	\$ 224,000	0.71	\$ 28,000,000	\$ 5,460,000	5.13	15,000,000.00	4,280,000.00	3.50	\$ 43,724,000	\$ 10,274,000	4.26
Chemicals	\$ -	\$ -					\$ -			17,472,000.00	3,619,100.00	4.83	\$ 48,979,000	\$ 12,199,100	4.01
Wood Processing							\$ 32,000,000	\$ 28,800,000	1.11				\$ 41,830,000	\$ 32,726,200	1.28
Pulp & Paper				\$ 800,000	\$ 1,220,000	0.66							\$ 27,544,000	\$ 7,067,800	3.90
Other	\$ 317,000	\$ 355,000	0.89	\$ 640,000	\$ 500,000	1.28							\$ 5,957,000	\$ 2,430,000	2.45
Total	\$ 2,042,000	\$ 1,945,000	1.05	\$ 3,657,500	\$ 4,882,500	0.75	\$ 68,550,000	\$ 35,924,000	1.91	\$ 33,347,000	\$ 8,194,100	4.07	\$ 209,070,500	\$ 82,007,800	2.55

Figure1: Potential Investments by Industry Type

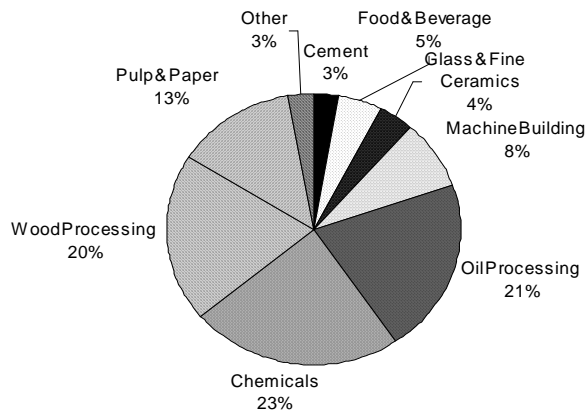
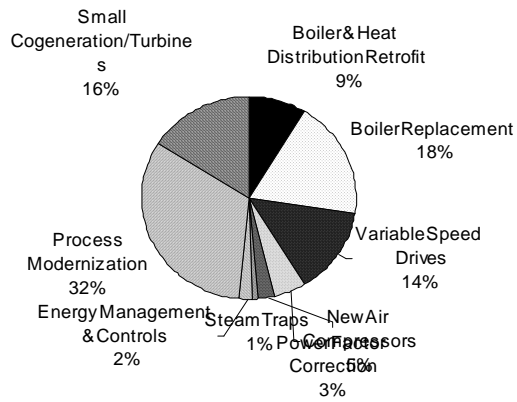


Figure2: Potential Investments by Technology



Initial Years Indicative Project Pipeline

Additional work has been carried out to confirm the savings and investment potential, and screen the creditworthiness of these projects to build the pipeline. However, there has been a delicate balance in developing a project pipeline due in part to previous experience in Romania with failed attempts to provide funding for energy efficiency investments. The customers that could be the best candidates have been approached about this before, and are leery about providing new information when they have been through this before, only to be disappointed when the funds were not made available. Additionally, the fact that the Fund will make final investment decisions, and the uncertainty of when funds from the FREE would be available to be committed, made it unadvisable to build a full pipeline of projects for early investment. Instead, the project preparation team has developed an indicative pipeline, where prospective customers have been pre-qualified as reasonably creditworthy, and have proposed projects meeting the Fund's tentative investment criteria.

Table 2 below lists 14 prospective FREE customers who have been screened, and their proposed energy efficiency investments, totaling over US\$9 million. Figure 3 shows the investment by technology.

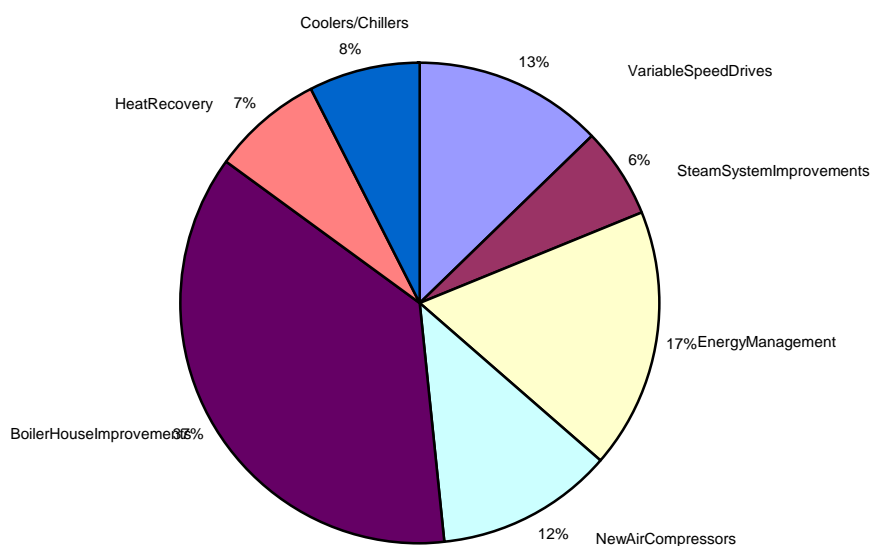
This indicative pipeline differs from the very short payback (less than two years, when considered as a package to a given customer) projects initially identified as key targets for the first two years of FREE operation. These kinds of projects would enable the Fund in the beginning to rollover funds quickly, and to fund more projects on a revolving basis. Having many initial "winning" projects to demonstrate success, and attract additional co-financing and more clients was considered key. The above-mentioned additional work, however, showed that many of the more sophisticated companies have already carried out these projects, with very few exceptions from their own funds. The Fund Manager will therefore have to concentrate from the beginning on slightly longer-term projects (2-3 years) and might consider adding short-term projects with high risk clients.

In addition to the above indicative pipeline, arrangements have been made with Romanian energy efficiency experts to support a number of interested potential clients in the development of detailed bankable investment proposals during the first half of 2002. These proposals would serve as the initial pipeline for consideration of the Fund Manager.

Table2:InitialYearsIndicativePipeline

Company's industrial profile-manufacturing	Export (%)	Profit (%)	Investments costs (Million USD)							Total
			Variable speed drives	Steam systems improvement	Energy management	New air compressors	Boiler house improvement	Heat recovery	Coolers/ chillers	
Porcelain+china	59.80	3.34		0.000		0.002				0.
Electric motors	88.67	15.08				0.200				0.
Garments	81.20	15.13		0.100	0.180	0.002				0.
Drugs	16.36	5.39				0.350				0.
Bread+pastry	0.00	4.23		0.060	0.045	0.025	0.250	0.060		0.
Airplane manufacturer	0.07	40.65		0.160	0.095	0.196	0.197			0.
Repair of train cars	0.00	15.43	0.050		0.050	0.064	0.415			0.
Aluminium casting	49.67	2.86	0.100	0.100	0.300	0.050	0.040	0.050		0.
Dairy		11.14	0.010	0.036	0.033		0.116	0.004	0.745	0.
Wood furniture	57.28	15.46	0.100	0.100	0.300	0.050	0.400	0.050		1.
Beer manufacturer	0.00	17.90					1.000			1.
Steel pipes+tubes	31.03	1.03	0.840		0.070	0.080	0.080			1.
Diesel motors+turbines	31.04	7.13	0.150		0.550	0.050		0.550		1.
Airplane repairs	62.22	3.75		0.050	0.088	0.100	1.100			1.
	36.83	9.99	1.250	0.606	1.710	1.169	3.598	0.714	0.745	9.

Figure3:IndicativePipelineInvestmentbyTechnology



Note: Total prospective investment of US\$9 million by 14 industrial companies

Case Studies

In addition to the indicative pipeline, more thorough reviews, including engineering due diligence, were performed for several projects. They are available from the Project Files.

Further Potential in Later Years of Operation

While creditworthy industrial facilities have been targeted for FREE's early years of operation due to the current economic situation in Romania, it is expected that other sectors will emerge as good candidates over the coming decade, and the market for energy efficiency investment will grow significantly. In particular, we anticipate that the growing commercial buildings sector (hotels and private offices) should be a strong market in the relatively near future.

Municipal and other public buildings and services should also be a very strong market during the second half of the coming decade. There are tremendous energy savings opportunities in municipal water and sewer systems, and public lighting systems as well. Additionally, schools and hospitals have very good potential. While all of these sectors are not currently considered good credit risks, their role in providing necessary public services means that they will remain in operation, and as the economic restructuring moves forward, will evolve into creditworthy entities.

Because of creditworthiness and repayment concerns regarding customers other than the industrial segments above, a detailed market assessment has not been carried out for the other sectors during project preparation. Other technical assistance work has attempted to quantify the size of other markets, which are quite large and could be a significant part of FREE's activity following the first few years. For example, extrapolating from recent PHARE work, conservatively there are US\$250 to 400 million boiler and building envelope projects in schools alone with short payback (under 3 years). Substantial potential also exists in privately owned commercial buildings (hotels and offices), and other public facilities such as hospitals.

It is anticipated that those other sectors will be investigated in more detail under TA activities funded by other donors with whom FREE is collaborating, such as UNDP/GEF, EcoLinks, USAID/SECI, GTZ.

Product channels

Six energy efficiency technologies, were investigated in more detail to estimate the current market based on historic sales figures, and to assess the manufacturing and distribution channels. The latter might later facilitate the identification of customers and the packaging of smaller projects with the help of vendors. Given that the main objective of the present Market Survey was to find the most attractive technologies for investment through the Fund, we defined as the primary target market projects with paybacks under three years and with capital investments ranging between US\$50,000 and US\$500,000. Additionally, the projects must have the majority of the savings from their installation come from energy savings (instead of production or capacity improvement), and the savings from their installations should be relatively easy to estimate and measure.

The technologies that fit under the umbrella criteria mentioned above include: Variable Speed Drives (VSDs), condensers for power factor improvement, steam traps, air compressors, new or retrofit boilers, industrial coolers, and automation and controls. For these technologies, the channels through which these technologies reach the end users were identified, or in other words which are the local manufacturers and their distributors and which are the distributors for imported products, their network, terms, etc.

The investigations highlighted a fairly large network of suppliers for imported technologies, as well as for domestic manufacturers. The absence of qualified and reliable suppliers is one problem that the Fund will not face. The most recent annual sales (1999 or 2000) of these technologies and the estimation of the market size were obtained by interviewing manufacturers and distributors, see Table 3.

Market potential was estimated for the next six years (2001–2006) based on different previous studies plus the estimates offered by equipment suppliers. Those estimates however are only indicative for the market growth over the next five years. They represent probably no more than 25 to 30% of the real market potential, under more "friendly" economic circumstances: medium term financing available, a sustainable economic growth of minimum 3% per year, a better tax treatment, inflation rate under control and predictable, reduced financial gridlock, etc.

Table 3: Annual Sales, 1999/2000 and Future Market Potential

	Annual Sales (1999 or 2000), in Mio US\$	Estimated annual sales (next 3-5 years), in Mio US\$
Steam Traps	0.84	2
Air compressors	4.85	10
VSDs	1.50	2
Automation/controls	8-10	10
Industrial coolers	2-3	9
Power factor condensers	4.30	3
Boilers	39.30	50
Electric motors	15.90	24
Total	77–80	111

The suppliers investigated showed a vivid interest in the Fund as an alternative source of financing and seemed keen to work with the Fund to bring good clients and projects. Many of the large suppliers (e.g. ABB, Honeywell Armstrong, etc.) are already screening their clients for financial soundness before closing any sales. Therefore, these may become good project providers to the Fund. Some expressed interest to have loan guarantees offered by the Fund to customers, for their own supplier credit schemes.

Additional Annex 12: Fund Manager Terms of Reference ROMANIA: Energy Efficiency

1. Background

The Romanian Energy Efficiency Fund (“FREE”) is seeking a consortium/firm (the “Fund Manager”) to assist in managing a US\$8 million Fund (“the Fund”) to support energy efficiency investments in Romania. The Fund Manager will provide a management team with proven structured finance experience and energy efficiency expertise for the position of FREE’s Fund Manager, to be based in Bucharest.

2. Objectives

As Fund Manager for FREE, the consultant will provide professional structured finance experience and energy efficiency expertise to develop and finance commercially viable energy efficiency investments which can provide sustainable and increasing reductions in greenhouse gas (GHG) emissions in Romania. The Fund Manager will be responsible for the investment aspects of the Fund and is expected to establish a portfolio of projects that allow the Fund to become self-financing within a period of three or a maximum of four years.

3. Scope of Services

The services of the fund manager include management and operation of the investment aspects of FREE. Key responsibilities of the Fund Manager include:

1. Prepare annual business and marketing plans, for targeting beneficiaries for the Fund, including plan to work together with local institutions/partners in order to strengthen initial deal flow and ensure coverage of the best investment opportunities.
2. Report to the Board of Administration as needed concerning the status of the investment portfolio, prospects for future investment, and any other material developments.
3. Identify target investment projects and prepare recommendations for investment:
 - Conduct promotional activities and originate new clients/projects
 - Screen and evaluate projects
 - Perform due diligence to analyze technical, environmental, financial and credit risks
 - Determine the structure of specific investments including the size of the investment, the use of funds, the nature of the interest to be taken by the Fund
 - Prepare financing terms and transaction packages
 - Make recommendations on potential investments to the Investment Committee
 - Work with the Investment Committee to refine specific transactions, as appropriate.
4. Negotiate and finalize financing contracts and arrange for disbursements to client [FREE is responsible for effecting all disbursements, including to clients of the Fund].
5. Manage the portfolio:
 - Ensure and arrange for payment collection
 - Monitor the performance of the portfolio and compliance of portfolio companies with financing contracts and take remedial action if necessary to deal with problems that arise
 - Report quarterly on portfolio performance to the Board, including on status of

investments made, prospects for future investments, and any other developments material to the Fund;

6. Coordinate and manage consultants and service providers providing the following types of assistance to the Fund Manager in carrying out this/hertasks:

- Engineering and technical analysis
- Legal
- Environmental screening, assessment and monitoring
- Loans servicing, including collections
- Accounting
- Marketing
- Financial structuring and analysis

7. Support FREE in attracting investors, particularly from the private sector, to co-invest with FREE' s energy efficiency opportunities once an investment track record has been established, at least doubling the funding available for energy efficiency investments:

- Identify potential private sector sources of co-finance for FREE transactions
- Develop co-financing arrangements
- Negotiate co-financing fees and other terms
- Carry out responsibilities to co-financiers under a co-financing agreement, if any.

8. After an initial period of project implementation of about three years review portfolio performance and develop a strategy for the remaining years of the project, including development of new products, new clients in economic sectors not yet covered and other diversification potential.

4. Advisory Support to and Training for the Fund Manager

As indicated above, it is intended that grant financing will be available to finance advisory support to FREE. While the technical assistance funds will be administered by the Executive Director, the Fund Manager will be able to define a part of the allocation for project development during the first three years of the fund, based on the annual business plan. The support is expected to be provided from independent experts and will supplement the work of the Fund Manager, particularly in the area of project development and training of partners of the fund. Some of the funds are expected to be used for training the Fund Manager in structuring energy efficiency deals, possibly through an independent adviser to FREE. Finally, staff of the Fund Manager will need to attend training for environmental assessment and monitoring.

A well-connected local presence is important to the success of the Fund. It is therefore a requirement that the Fund Manager be prepared to work together with local and regional institutions in order to strengthen the initial deal flow and ensure that the Fund Manager is aware of the best investment opportunities in Romania. It is expected that the Fund Manager will conclude some form of assistance agreement with these local entities soon after contract signature. The nature of this assistance is at the discretion of the Fund Manager to design, subject to the approval of the Board of Administration. Prospective Fund Managers are therefore encouraged to reflect in their proposals on the best means of working with these institutions.

5. Staffing

It is expected that the Fund Manager will consist of a core team of individuals, comprised of senior and junior professionals. There are no other mandatory requirements for the size or structure of the Fund Management Team. Firms tendering for the Fund Management contract should make clear how they propose to structure their team, taking maximum advantage of the experience of Romanian experts. The following guidelines may be useful in preparing proposals:

(1) Senior Fund Manager:

- to be resident in Romania at least while the Fund is in the active investment phase;
- should have direct investment or venture capital fund management experience covering the full investment cycle from initial identification to exit;
- will be the “public face” of the Fund and will therefore be expected to effectively interact with the local business and administrative community; and
- should be able to communicate in Romanian and English. It will be important that any deficiencies in language proficiency be addressed through adequate interpretation/translation arrangements.

(2) Investment Professionals:

- will be based in Romania;
- it is suggested that the team should include at least two investment professionals. These should have direct investment or venture capital experience, although industrial management, investment banking, management, legal, consulting or accounting experience may also be acceptable;
- and should be able to speak Romanian and English.

(3) Energy Efficiency Professional:

It is expected that the team will include at least one professional with previous experience in developing bankable energy efficiency investments.

(4) Support Staff:

Support staff may include interpreters, secretaries, drivers and others.

The fund management proposal should indicate which individuals will fill the positions of Senior Fund Manager, Investment Professionals and Energy Efficiency Professional. The proposal should also indicate the organization structure, the key staff committed, the status of discussions with potential staff and the process the firm expects to undertake to finalize its team. It is not necessary to identify specific support staff.

Finally, the proposal should include a clear indication of the proportion of time which individuals will be able to work for the Fund Management Team and, in the case of the Senior Fund Manager, the proportion of time to be spent in Romania. The Consultant Contract will specify the proportion of time that each of the individuals in the core team is required to spend on the project. If the Fund Manager needs to replace any of these individuals, replacement candidates acceptable to the Bank will have to be provided within a reasonable period of time.

6. Training (when appropriate)

See previous section

7. Reports and Time Schedule

The Fund Manager will submit the following plans and reports to the Executive Director for submission

to the Board and the World Bank .

Type of Report	Time Schedule	Remarks
Business Plan (including marketing plan, T A plan)	Within 2 months of effectiveness of the contract	Including how the business plan will help the Fund achieve self-financing and by when
Portfolio Performance Report	Quarterly	Including the health of the portfolio
Environmental Supervision and Performance Report	Annually	
Midterm report and strategy for the remaining years of the project, including development of new products, new clients in economic sectors not yet covered and other diversification potential	During the third year of Fund operation	

8. Data, Local Services, Personnel, and Facilities to be provided by the Client
To be determined (only sharing of data and documentation)

9. Terms of Engagement

The Fund Manager will enter a five-year contract with FREE which will be subject to review and negotiations after three years, and may be extended beyond five years if required, and subject to successful performance. The key factor for extension beyond the third year is the ability of the Fund to earn sufficient income to cover expenses, including fees to the Fund Manager. The contract will be based on the World Bank's standard Consultants' Services contract (Lump Sum Remuneration).

The Fund Manager will be paid an annual retainer. The fixed fee part will cover the basic operating costs of the Fund Manager. It will be paid in monthly installments and will be guaranteed during the first three years of the contract. The performance-based part will depend on the value of new loans made each quarter and on the repayment performance. In addition, the Fund Manager will receive the deal origination fees directly paid by the Fund's clients. The success fee in the form of a percentage share of the Fund's increase in net asset value will be based on the winning bidder's offer.

All co-financing agreements with other financiers are subject to review and approval by FREE and the World Bank. Fees realized through co-financing arrangements or for managing non-FREE funds will also constitute income of the Fund Manager. All such income will be disclosed completely to the Board of Administration before entering into such agreements. In case of a conflict of interest, the Fund Manager shall seek prior written approval of FREE before proceeding with the evaluating an investment proposal.

Additional Annex 13: STAP Technical Review Comments and Response ROMANIA: Energy Efficiency

William Chandler
Senior Staff Scientist
Battelle, Pacific Northwest National Laboratory
Final Comments, 6 September 2000

General Comments

The objective of this proposed project—to “reduce greenhouse gas emissions in Romania through the development of a self-sustaining, market-based mechanism that will support the development and implementation of commercially viable energy efficiency investments”—is inconsistent with the principles of the Global Environment Facility and with the energy and environmental needs of Romania. The proposed approach is logical and straightforward.

Specific concerns expressed below are relatively minor and relate to ambiguity in the text, ambiguities with respect to project implementation and accountability. These comments should be taken as constructive, and not intended to encourage rejection or even delay in the project’s approval. Specific actions I would urge include consideration of using the funds as equity rather than debt, and giving clearer definition to the role and sustainability of the proposed foundation.

In general, I find this effort laudable and would endorse it.

Specific Comments

Section A.1.: The document states: “The project will support the development and implementation of commercially viable energy efficiency investments, which can provide sustainable and increasing reductions in GHG emissions without public subsidy.” The reviewer agrees that this approach—stimulating commercial investments—is feasible and sustainable. It may be unrealistic, however, to expect a “large increase” in such investment on the basis of this small program, which involves only \$10 million of World Bank/GEF funds. An increase in the size of the program may be desirable.

Section A.2.: Drop “by project year” from the first criterion. Investments are “lumpy” and would better be evaluated over, say, a three-year period. That is, it is the overall result that is important, not the annual rate of investment.

Section A.3.: The first criterion—an increase in commercial efficiency lending—may require additional elaboration. It is difficult to measure efficiency lending because efficiency can embrace a wide variety of investments, and it is unlikely that a current baseline of investment exists against which to evaluate the effectiveness of the EEFF. Making this evaluation would require something like an economic baseline modeling effort, which would be expensive, difficult, and not all that productive.

Section A.4.: I would be careful about claims such as the following: “Romania’s energy intensity, which is mirrored by its GHG intensity, is about five times that of UK, France or Germany.” This comparison almost certainly was made on the basis of GDPs estimated using current exchange rates. Most energy and environmental analysts consider energy intensity measured on the basis of purchasing power parity

(PPP) to be more valid (although still uncertain). Romania's energy intensity would remain relatively high, but not a factor of five higher than European Union nations. I recommend using International Energy Agency estimates using PPP.

Section B.4.1.: One might further justify (with numbers) the following sentence: "Although there have been many donor-funded technical assistance and technical demonstration projects to improve energy efficiency, these have not achieved results in terms of increasing investments on the ground." This reviewer doubts very much that the first part of the sentence—"many... projects"—is objectively true. That is, the efficiency effort made by the international community is probably small in absolute terms. More likely, there have been some poorly designed "tied-aid" projects intended to promote sales of European and American products, though probably not much even of that.

The following sentences are mostly on-target: "The overarching barrier to energy efficiency investment is a lack of commercial credit for these projects: lending institutions consider both the costs and the risks of lending for energy efficiency at this time to be too high. The recent failure of an EBRD project provides instructive experience. It established a credit line for energy efficiency projects with a Romanian bank that failed to disburse due to lack of incentives and interest in adequate sub-project development." This discussion is missing two important elements, however. First, equity is not mentioned, but can be a powerful tool for efficiency investment, particularly when coupled with investments to improve product quality and to increase output. Second, the failure of EBRD (and IFC) lines of credit almost certainly are related more to constraints internal to the EBRD (and IFC) and its lines of credit—the rules, regulations, management style—than to any problem with the market (though problems certainly exist in the market).

The following sentence is almost certainly true, but can be taken out of context: "The transaction costs of identifying, developing and financing energy efficiency projects are high. The development of a sound energy efficiency loan portfolio requires a level of specialization that entail high initial costs." If the words "energy efficiency" were deleted, the sentence would still be true for Romania.

The following statement is no longer true (at least outside Romania): "...there is a common perception outside of the energy efficiency community that the benefits of these projects are only "social and environmental benefits", and some people are skeptical about financial profitability." Enron, hardly an environmental advocacy group, currently invests about \$1 million per day in efficiency projects in its customers' facilities.

This statement is probably untrue: "Loan repayment periods of 2-4 years will be required for most projects..." At least if true it is not a problem unique to efficiency investing.

How is the following problem different from an investment in, say, increasing output of diamonds? "In enterprises that are typically short of cash (even if profitable), there may be a danger that savings on energy bills will be diverted to make other payments, rather than loan repayments."

The following point is perhaps the most relevant to project justification: "While there is a wealth of studies on technical and economic potential for energy efficiency, these are of little use for bank loan officers. A similar lack of ability to combine technical and financial skills can be observed on part of the consumer/enterprise side." These two sentences are exactly right. However, the discussion should also call attention to a key, missing skill in both the banks and the enterprises, which is in the field of accounting. Making sense of balance sheets in the region, and especially when it comes to expenses such as energy, is a substantial barrier to efficiency investment.

Section C.1.: The questionnaire asks whether the “Foundation” is merely a pass-through organization from the GEF to the private sector. The question of how the Foundation survives beyond the GEF project is not adequately addressed (although allusion is made to this question in a table footnote and an aside about a 1 percent “finders fee”). Specifically, the proposal should embrace the concepts of “core funding” (to attract competent staff) and self-sufficiency. The latter should be a fixed date by which staff will have to find funds to sustain their work. It is also critical that the core principles of the foundation be articulated and that the lines of accountability for management and success of the foundation be drawn. This effort may require drafting of a charter or the selection of a model charter.

Section E.4.: The proposal defers spelling out role and responsibilities of Foundation and the financial institution.

Section E.4. and E.6: The term key stakeholders is used, but stakeholders are not identified. If working groups have been formed and meetings held as reported, then stakeholders can probably be defined more specifically.

Team Response to STAP Review

General Comments

Specific actions I would urge include consideration of using the funds as equity rather than debt, and giving clearer definition to the role and sustainability of the proposed foundation.

Response: The project team considers that equity investments should follow at a later stage, when sufficient debt investments have taken place to assure revolution of funds. Considering that equity is the highest risk capital, it should be undertaken only if market conditions require it and when exit is feasible. The project team recognizes that clearer definition to the role and sustainability of the proposed foundation is an important task during further project preparation which is explained in more detail below.

Specific Comments

Section A.1.: The document states: “The project will support the development and implementation of commercially viable energy efficiency investments, which can provide sustainable and increasing reductions in GHG emissions without public subsidy.” The reviewer agrees that this approach—stimulating commercial investments—is feasible and sustainable. It may be unrealistic, however, to expect a “large increase” in such investment on the basis of this small program, which involves only \$10 million of World Bank/GEF funds. An increase in the size of the program may be desirable.

Response: While GEF would only contribute US\$10 million, the revolving nature of the EEFF and the cofinancing attracted would result in estimated total investment to be leveraged by the EEFF in the order of US\$113 million. This would constitute a large increase.

Section A.2.: Drop “by project year” from the first criterion. Investments are “lumpy” and would better be evaluated over, say, a three-year period. That is, it is the overall result that is important, not the annual rate of investment.

Response: True, investments are lumpy, but with the help of the performance indicators, it will be monitored that EEFF in fact is making a certain number of loans (of a certain size) every year which would be critical in order to be able to cover operating costs. The project team will continue to devise operational performance indicators and benchmarking criteria.

Section A.3.: The first criterion—an increase in commercial efficiency lending—may require additional elaboration. It is difficult to measure efficiency lending because efficiency can embrace a wide variety of investments, and it is unlikely that a current baseline of investment exists against which to evaluate the effectiveness of the EEFF. Making this evaluation would require something like an economic baseline modeling effort, which would be expensive, difficult, and not all that productive.

Response: The reviewer’s argument is valid in general. The project team is however currently establishing a baseline of industrial energy efficiency investment which shows that there is very little if any commercial lending for energy efficiency. Against this baseline future lending activities to be surveyed could be evaluated.

Section A.4.: I would be careful about claims such as the following: “Romania’s energy intensity, which

ismirroredbyitsGHGintensity,isaboutfivetimesthatofUK,FranceorGermany.”Thiscomparison almostcertainlywasmadeonthebasisofGDPsestimatedusingcurrentexchangerates.Mostenergy andenvironmentalanalystsconsiderenergyintensitymeasuredonthebasisofpurchasingpowerparity (PPP) tobemorevalid(althoughstilluncertain).Romania’senergyintensitywouldremainrelatively high,butnotafactoroffivehigherthanEuropeanUnionnations.IrecommendusingInternational EnergyAgencyestimatesusingPPP.

Response: Thereviewerisabsolutelycorrectwithhisobservation;theenergyintensitycomparison isonthebasisofcurrentexchangerates.WhenusingPPP,bothRomania’senergyintensity andCO2intensityare2-3timeshigherthanintheUSA,orinGermany,France,UK.Romania’s energyintensityandCO2intensityarethehighestforallcountriesinCentralEurope.

SectionB.4.1.:Onemightfurtherjustify(withnumbers)thefollowingsentence:“Althoughtherehave beenmanydonor-fundedtechnicalassistanceandtechnicaldemonstrationprojectstoimproveenergy efficiency,thesehavenotachievedresultsintermsofincreasinginvestmentsontheground.”This reviewer doubtsverythatthefirstpartofthesentence–“many...projects”–isobjectivelytrue.Thatis,the efficiencyeffortmadebytheinternationalcommunityisprobablysmallinabsoluteterms.Morelikely, therehavebeensomepoorlydesigned“tied-aid”projectsintendedtopromotesalesofEuropeanand Americanproducts,thoughprobablynotmuchevenofthat.

Response: EE-relatedTAafter1990islistedintheEUSynergySurveyofEnergyCo-operationin Romania.Bilaterallyandmultilaterallyfundedprojectsarealmostinnumerable.True,mostofthose projectsdidnotresultinanyinvestment.

Thefollowingsentencesaremostlyon-target:“Theoverarchingbarriertoenergyefficiencyinvestmentis alackofcommercialcreditfortheseprojects:lendinginstitutionsconsiderboththecostsandtherisks oflendingforenergyefficiencyatthistimetobetoohigh.The recentfailureofanEBRDproject providesinstructiveexperience.Itestablishedacreditlineforenergyefficiencyprojectswitha Romanianbankthatfailedtodisburseduetolackofincentivesandinterestandinadequatesub-project development.”Thisdiscussionismissingtwoimportantelements,however.First,equityisnot mentioned,butcanbeapowerfultoolforefficiencyinvestment,particularlywhencoupledwith investmentstoimproveproductqualityandtoincreaseoutput.Second,the failureofEBRD(andIFC) linesofcreditalmostcertainlyarerelatedmoretoconstraintsinternaltotheEBRD(andIFC)andits linesofcredit–therules,regulations,managementstyle–thantoanyproblemwiththemarket(though problemscertainlyexistinthemarket).

Response: Theneedforequityisanotherimportantpartoftheoverallmenuofinstrumentstofurther energyefficiency.Theprojectteamhasdiscussedtheneedforprovidingequityalso,butitisfairly convincedthatatthispointdebtisthemorepressingneed.CreditlinesingeneralinRomaniahave faredverybadly,andthiswasduetoamixofproblemswiththemarketandwithdifficultytoaccess thosecreditlinesandinternalregulations,e.g.,theover-collateralization.

Thefollowingsentenceisalmostcertainlytrue,butcanbetakenoutofcontext:“Thetransactioncosts ofidentifying,developingandfinancingenergyefficiencyprojectsarehigh.The developmentofasound energyefficiencyloanportfoliorequiresalevelofspecializationthatentailshighinitialcosts.”Ifthe words“energyefficiency”weredeleted,thesentencewouldstillbetrueforRomania.

Response: Thecommentiscorrect,however,theprojectteamnoticedthatthekindofproject financingwhichisideallysuitedtoenergyefficiencyinvestmentsisnotcommonatallinRomania. Thisdoesinfactrequirehighinitialset-upcostduetotheveryspecializednatureofskillsandofthe market.

The following statement is no longer true (at least outside Romania): "...there is a common perception outside of the energy efficiency community that the benefits of these projects are only "social and environmental benefits", and some people are skeptical about financial profitability." Enron, hardly an environmental advocacy group, currently invests about \$1 million per day in efficiency projects in its customers' facilities.

Response: In the overwhelming majority of discussions with Romanians in the financial and in the industrial sector, they articulated exactly the statement reported above. The lack of successful energy efficiency projects in Romania is probably responsible for this perception.

This statement is probably untrue: "Loan repayment periods of 2-4 years will be required for most projects..." At least if true it is not a problem unique to efficiency investing.

Response: Yes, the requirement of longer-term loans are probably common for most lending operations other than for working capital. We should probably leave this out.

How is the following problem different from an investment in, say, increasing output of diamonds? "In enterprises that are typically short of cash (even if profitable), there may be dangers that savings on energy bills will be diverted to make other payments, rather than loan repayments."

Response: In combination with the difficulty of collateralization, the challenges of securing repayments seem to be larger for energy efficiency loans in the particular environment of a former command economy.

The following point is perhaps the most relevant to project justification: "While there is a wealth of studies on technical and economic potential for energy efficiency, these are of little use for bank loan officers. A similar lack of ability to combine technical and financial skills can be observed on part of the consumer/enterprise side." These two sentences are exactly right. However, the discussion should also call attention to a key, missing skill in both the banks and the enterprises, which is in the field of accounting. Making sense of balance sheets in the region, and especially when it comes to expenses such as energy, is a substantial barrier to efficiency investment.

Response: This point is well taken. Balance sheet and cash flow analysis is challenging in the former command economies and particularly in a still unstable macroeconomic situation.

Section C.1.: The questionnaire asks to whether the "Foundation" is merely a pass-through organization from the GEF to the private sector. The question of how the Foundation survives beyond the GEF project is not adequately addressed (although allusion is made to this question in a table footnote and an aside about a 1 percent "finders fee"). Specifically, the proposal should embrace the concepts of "core funding" (to attract competent staff) and self-sufficiency. The latter should be a fixed date by which staff will have to find funds to sustain their work. It is also critical that the core principles of the foundation be articulated and that the lines of accountability for management and success of the foundation be drawn. This effort may require drafting of a charter or the selection of a model charter.

and

Section E.4.: The proposal defers spelling out role and responsibilities of Foundation and the financial institution.

Response: The Foundation is not merely a pass-through. Originally, it was in fact conceived as a pass-through. The project team quickly realized that the Foundation needs to take on real responsibilities within the project. It will, under World Bank rules, carry out the tendering process for the management of the EEFF. It will be in charge of contacts with bilateral and multilateral donors who support the project with TA. It will carry out all non-commercial activities of the project, for example, monitoring, evaluation and dissemination of project results, and reporting to the GEF. It will supervise the management of the EEFF, and will have some role in making investment decisions. The current thinking is that it would approve the annual business plan but would not in fact have to sanction every single investment decision below a certain threshold to be determined. Finally, the Foundation will receive at project closure the GEF funds which have not been spent as TA or as final grant. To fulfill all those duties, the Foundation needs to be an organization with a small professional staff which has the potential to develop into one of the Romanian leaders of global environmental objectives. Adequate and stable funding mechanisms also need to be developed.

During further project preparation, in fact during the next three-four months, the role and responsibilities of the Foundation will be defined in detail, its charter will be drawn up, its members will be identified, and it will be registered. In parallel, the relationship with the manager/management company will be defined in detail, and their respective responsibilities, e.g. with respect to making investment decisions, will be delineated. The content of the performance contract between foundation and management of the EEFF will also be developed.

Section E.4. and E.6: The term key stakeholders is used, but stakeholders are not identified. If working groups have been formed and meetings held as reported, then stakeholders can probably be defined more specifically.

Response: The key stakeholders in this project are the following:

- *Companies in the industrial sector who would be the potential clients for the Fund, and their associations;*
- *Manufacturers, contractors and other service providers, for example, ESCOs, research institutes and engineering and consulting companies, but also associations, catering to the industrial and other sectors, who would be targeted as partners and allies of the EEFF;*
- *Companies in the financial sector, particularly banks, but also leasing companies, who would be targeted as financiers and potential partners of the EEFF; and*
- *Actors in the environmental sector who would be allies for the foundation, particularly those interested in global environmental issues.*

**Additional Annex 14: Focal Point Endorsement Letter
ROMANIA: Energy Efficiency**

