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Report No: 27545-BUL

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT FROM THE
GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US$10.0 MILLION

TO THE

REPUBLIC OF BULGARIA

FOR

AN ENERGY EFFICIENCY PROJECT

February 14, 2005

Infrastructure and Energy Department
Europe and Central Asia Region

CURRENCY EQUIVALENTS
(Exchange Rate Effective January 19, 2005)

Currency Unit	=	Bulgarian Leva (BGN)
BGN 1.4976	=	US$1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

BEEF	Bulgaria Energy Efficiency Fund
CAS	Country Assistance Strategy
CO_2	Carbon Dioxide
CEEF	Commercializing Energy Efficiency Finance
CFAA	Country Financial Accountability Assessment
EA	Environmental Assessment
EE	Energy Efficiency
EIA	Environmental Impact Assessment
EBRD	European Bank for Reconstruction and Development
EPA	Environmental Protection Act
ERR	Economic Rate of Return
ESCO	Energy Service Company
EU	European Union
FI	Financial Intermediary
FM	Fund Manager
FMR	Financial Management Report
FRR	Financial Rate of Return
GA	Guarantee Account
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gases
GFA	General Framework Agreement
GOB	Government of Bulgaria
HEECP	Hungary Energy Efficiency Co-Financing Program
IBRD	International Bank for Reconstruction and Development
IFC	International Finance Corporation
LS	Legal Statute
MB	Management Board
MEER	Ministry of Energy and Energy Resources
mt	Million tons
NAV	Net Asset Value
NGO	Non-governmental Organization
NPV	Net Present Value
OECD	Organization for Economic Cooperation and Development
OM	Operations Manual
PAL	Programmatic Adjustment Loan
PCG	Partial Credit Guarantee
PHARE	Poland and Hungary Aid for Restructuring of the Economies
PPU	Project Preparation Unit
SA	Special Account
SME	Small- and Medium-Sized Enterprise
SOE	Statement of Expenditures
TA	Technical Assistance
toe	Ton of Oil Equivalent
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development

Vice President:	Shigeo Katsu, ECAVP
Country Manager/Director:	Anand K. Seth, ECCU5
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Task Team Leader:	Istvan Dobozi, ECSIE

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BULGARIA

ENERGY EFFICIENCY PROJECT

CONTENTS

BULGARIA
ENERGY EFFICIENCY
PROJECT APPRAISAL DOCUMENT
EUROPE AND CENTRAL ASIA
INFRASTRUCTURE AND ENERGY DEPARTMENT

Date: February 14, 2005	Team Leader: Istvan Dobozi
Country Director: Anand K. Seth	Sectors: General energy sector (100%)
Sector Manager/Director: Henk Busz/Hossein Razavi	Themes: Climate change (P)
Project ID: P084831	Environmental screening category: Financial Intermediary (FI)
Focal Area: C - Climate change	Safeguard screening category: S_F

Project Financing Data

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

For Loans/Credits/Others:
Total GEF financing (US$m.): 10.00

Financing Plan (US$m)

Source	Local	Foreign	Total
RECIPIENT (GOV. OF BULGARIA)	1.80	0.00	1.80
GLOBAL ENVIRONMENT FACILITY	0.00	10.00	10.00
AUSTRIA, GOV. OF	0.00	1.80	1.80
EUROPEAN UNION/PHARE	0.00	0.25	0.25
BILATERAL/MULTILATERAL AGENCIES (TO BE CONFIRMED)	0.00	3.70	3.70
CO-FINANCING LEVERAGED FROM PRIVATE SECTOR	31.96	0.00	31.96
Total:	33.76	15.75	49.51

Recipient: Republic of Bulgaria

Responsible Agency: Ministry of Energy and Energy Resources (MEER)
Address: 8, Triaditza Str., 1040 Sofia, Bulgaria.
Contact Person: Ms. Kostadinka Todorova, Director, Energy Strategy Directorate, MEER, Head of Project Preparation Unit. Tel/fax: (359-2) 988 3216, e-mail: todorova@doe.bg.

Estimated disbursements (Bank FY/US$m)

FY	2005	2006	2007	2008	2009				
Annual	6.5	2.0	1.0	0.5	0.0				
Cumulative	6.5	8.5	9.5	10.0	0.0				

Project implementation period: Start: March 22, 2005 End: September 30, 2009
Expected effectiveness date: April 20, 2005
Expected closing date: March 31, 2010

Does the project depart from the CAS in content or other significant respects? ***Ref. PAD A.3***	[ ]Yes [x] No
Does the project require any exceptions from Bank policies? ***Ref. PAD D.7*** Have these been approved by Bank management? Is approval for any policy exception sought from the Board?	 [ ]Yes [x] No [ ]Yes [ ] No [ ]Yes [x] No
Does the project include any critical risks rated "substantial" or "high"? ***Ref. PAD C.5***	[x]Yes [ ] No
Does the project meet the regional criteria for readiness for implementation? ***Ref. PAD D.7***	[x]Yes [ ] No

Project development objective ***Ref. PAD B.2, Technical Annex 3***

Global environmental objective ***Ref. PAD B.2, Technical Annex 3***

Project description *[one-sentence summary of each component]:*

Component 1: Partial credit guarantees (to share in the credit risk of EE investments).
Component 2: Investment (sub-loan) financing (to co-finance bankable EE projects).
Component 3: Technical assistance (for capacity building and covering set-up and initial operating costs of the Bulgaria Energy Efficiency Fund (BEEF).
Ref. PAD B.3.a, Technical Annex 4

Which safeguard policies are triggered, if any? ***Ref. PAD D.6, Technical Annex 10***
Environmental Assessment (OP/BP/GP 4.01)

Significant, non-standard conditions, **if any**, for: None
Ref. PAD C.7

Covenants applicable to project implementation:

The Subsidiary Grant Agreement between Ministry of Energy and Energy Resources (MEER) and BEEF, satisfactory to the Bank, has been duly executed (condition of effectiveness).

The Fund Manager (FM) of BEEF has been appointed under terms and conditions satisfactory to the Bank (condition of effectiveness).

MEER, while acting as the initial project implementing agency, shall maintain a Financial Management System (FMS) acceptable to the Bank. MEER shall establish a Special Account (SA) in a bank acceptable to the Bank for the purpose of disbursement of GEF funds under the TA component.

The FMS of BEEF should be satisfactory to the Bank (condition of disbursement through BEEF).

The Operations Manual (OM) acceptable to the Bank has been adopted by BEEF (condition of

disbursement through BEEF).

The Legal Statute and the OM of BEEF shall not be amended without prior concurrence of the Bank. BEEF shall carry out the project in accordance with the OM.

All appointments to BEEF's Management Board (MB) shall be subject to prior consultation with the Bank.

BEEF shall at all times employ a qualified FM. The FM shall be appointed competitively in compliance with Bank procurement rules. The appointment shall be approved by the Bank.

BEEF's financial statements and project financial statements (including Statement of Expenditures and SA) will be audited by independent auditors acceptable to the Bank and on Terms of Reference acceptable to the Bank. The annual audited statements and audit report will be provided to the Bank within six months of the end of each fiscal year. Not later than six months after grant effectiveness, BEEF shall hire independent auditors under terms and conditions satisfactory to the Bank.

MEER's accounting software, capable of producing Financial Monitoring Reports (FMRs) in the format required by the Bank for the purpose of project accounting, will be transferred to BEEF following the appointment of the FM.

BEEF shall maintain a FMS acceptable to the Bank, including system of accounting, reporting, auditing and internal control. BEEF shall open a SA and a Guarantee Account in a bank acceptable to the Bank.

BEEF shall execute Guarantee Agreements with commercial banks for individual partial guarantee commitments not to exceed the equivalent of US$500,000 or such amount as may be agreed upon by the Bank from time to time.

Within thirty days of a guarantee call payment, BEEF shall provide to MEER and the Bank a written report indicating the reasons for the default, its recovery plan and its assessment of the probability of recovery of the amounts in default and thereafter implement the recovery plan approved by BEEF's MB. If any amounts are determined by BEEF to be irrevocable, BEEF shall obtain the approval of MEER and the Bank to write off such amounts.

BEEF will review with the Bank all proposals considered for sub-loan financing and partial credit guarantees and receive the approval of the Bank prior to its entering into an financing agreement in its first year of operation.

By not later than October 31 of each year, commencing on October 31, 2005, until completion of the project, BEEF shall furnish to the Bank for its approval a draft annual budget and adopt the agreed budget prior to December 31 of that respective year.

Not later than December 31 of each year during project execution, commencing on December 31, 2005, BEEF shall furnish to the Bank and MEER a draft annual business plan and

incorporate the Bank's recommendations prior to submitting it to the MB for approval.

MEER and BEEF shall prepare and review with the Bank, not later than six months before the grant closing date, a plan for the continued achievement of the objectives of the project.

BEEF shall achieve financial self-sufficiency by 2010.

BEEF shall submit to the Bank semi-annual FMRs in the format agreed with the Bank.

In the third year of its operation, BEEF shall prepare a mid-term project progress report.

Procurement of goods, works and services financed out of the GEF grant proceeds shall be governed by the Bank's procurement rules as further elaborated in the project Procurement Plan.

A. STRATEGIC CONTEXT AND RATIONALE

1. Country and sector issues

1.1. Excessive energy intensity - vast potential for energy savings

Compared with the vast majority of the European countries, Bulgaria is an outlier in terms of energy intensity of its economy (see table in Annex 1). At 0.38 ton of oil equivalent per thousand US$ of GDP (at the Purchasing Power Parity exchange rate), the country's energy intensity is more than twice the average value for the European Union. It also exceeds by a considerable margin the energy intensity of the transition economies in Europe. The extreme energy inefficiency is due in part to specific circumstances of Bulgaria, including over-stimulated electricity demand because of historically heavy reliance on grossly underpriced electricity for heating, the virtual lack of low-pressure natural gas market and delays in modernizing the district heating systems. Consumption of electricity is particularly wasteful. In 2001, Bulgaria's electricity intensity of GDP was seven times higher than the OECD average, four times higher than that of Hungary and Turkey, and 60% higher than that of Romania.

Mirroring the large energy inefficiency, the environmental impact of Bulgaria's economy is disproportionately high. In terms of CO_2 emissions per unit of GDP, Bulgaria is surpassed only by Russia and Ukraine among the European transition economies. Inefficient energy utilization is one of the reasons for the existence of environmental "hot spots" in the country (e.g., Devnya, Maritsa-Iztok, Galabovo-Radnevoya) where ambient air quality often does not meet national and World Health Organization standards.

Because of the current low efficiency base, Bulgaria has a vast potential to achieve significant energy efficiency (EE) gains in a cost-effective manner. The saving potential is as high as 50% for existing building stock, 40% for district heating and 30% for industry. The industrial sector accounts for more than half of the savings potential. The Government's *National Energy Saving Program to 2010* (adopted in 2001) identified a vast potential for energy saving and specified a large number of specific EE programs and measures for the various end-use sectors with combined energy savings amounting to 1.4 million tons of oil equivalent per year (or about 15% of total final energy consumption) and CO_2 emissions reduction of 5.6 million tons per year. The most promising low-cost energy saving projects (with payback time of less than 3 years) were included in the Government's medium-term *National Energy Saving Action Plan (2001-2003),* but very few projects have actually been carried out. During 2001-2003, the commercially financed EE investments amounted to US$13 million, a mere 5% of the annual requirements for EE investments included in the *National Energy Saving Program to 2010.* This is a good indicator of the striking size of the EE finance gap in Bulgaria.

1.2 Barriers to energy efficiency

Albeit opportunities for "win-win" projects (i.e., ones bringing environmental benefits and sufficient financial returns) are abundant given the disproportionately large scope for EE improvements, Bulgaria's EE market is still underdeveloped, failing to produce the needed volume of investment capital. The most serious barriers to uptake of commercial EE finance are:

Difficult access to finance. Commercial bank intermediation relative to the size of the Bulgarian economy is low by any standard, partly as a lingering consequence of the collapse of the banking system during the severe economic and financial crisis of 1996-1997. The corporate sector's access to credit is low by international standards and is still below the level reached before the 1996-1997 banking crisis. Commercial banks have managed risks by limiting lending volume, demanding high collateralization (200% and higher), charging high interest rates to local businesses (between 10% and 18%, despite inflation being contained lately at 4%), focusing on short-term lending (with loan maturities of 1-2 years) and investing in low-risk government securities. Loans depend primarily on collateral and less so on proven cash flows. Insufficient competition allows banks to keep credit low while maintaining high margins. Instead of turning to bank borrowing, small- and medium- sized enterprises (SMEs) in Bulgaria rely primarily on cash. The loan portfolio of banks is still simple, consisting largely of working capital loans with short maturities and available mostly to well-established firms.[1] The extreme inefficiency of the Bulgarian judicial system makes recovery of debt or seizure of collateral a long-winded process. The perceived high credit risk hurts especially the SMEs, housing cooperatives, municipalities, hospitals and other similar energy consumers, which may not have a significant credit history or lack suitable collateral values associated with EE projects. Approval of credit applications takes months.

Perception of high risk for EE projects. In Bulgaria, there is a considerable gap between the real and perceived risk by banks with respect to EE projects. Commercial banks are generally not familiar with commercial and technical issues involved in EE projects and perceive the risks and transaction costs of EE projects as too high. Benefits of these projects are often seen as "environmental" and "social" and there is skepticism about their financial profitability. The staff in many financial institutions has no experience in dealing with EE investments whose benefits are largely intangible (operating cost savings), favoring instead the more familiar energy supply projects that yield tangible output and revenue increases. Another barrier to the financing of EE projects is their generally small size relative to energy supply projects with which they often must compete for financing. Because of the proportionally higher transaction costs, a small EE project may be of no interest to banks or it must have a higher rate of return for the size of the return to be high enough for the financial institution to outweigh the transaction costs. Clearly, a proven track record of commercially profitable EE projects is required to convince lenders that a number of risks are only perceived and can be managed, and that the initial costs of getting into this specialized business are worth incurring or can be partially avoided due to prior experience.

Weak capacity to develop bankable EE projects. The combination of financial and technical skills needed for the preparation of sound EE business plans are largely missing in Bulgaria. Typically there is weak commercial orientation among technical staff and a widespread lack of understanding of financial packaging of projects and isolation from financial institutions. An organization with a limited history of commercial borrowing will almost inevitably also have limited experience in developing compelling business plans. SMEs are too small to have

[1] Around 60 subsidiaries of leading international companies represented in Bulgaria receive 95% of the credits extended in the country.

specialist staff experienced in business plan preparation. A poorly constructed business plan is a frequent cause of an otherwise good project being rejected by financial institutions.

Lack of innovative EE financing. Innovative financing, such as energy performance contracting, is hardly used in Bulgaria albeit it can be effective in attracting the necessary capital, often for projects that are deemed too small or risky for financial institutions. This may require "project pooling" by a third party where projects that are individually too small to justify an energy performance contracting arrangement are bundled to make a financially viable package. However, there is no mature and competitive energy service industry in Bulgaria, with most of the private energy service companies (ESCOs) having small operations and balance sheets. They tend to suffer from insufficient credibility and trust by both the energy users and the financial institutions that they can deliver the promised energy/financial savings. There is a financing vicious circle, whereby the low credibility and reputation of small ESCOs prevent them from attracting financing partners, let alone receiving competitive financing terms from commercial banks. Modern project-finance concepts (e.g., off-balance sheet financing, equipment leasing) are not widespread. This results in typically higher cost of capital and in the inability to hedge the uncertainty of energy savings. The availability of credit guarantees for performance contracting could be a factor in reducing the credit risk profile of energy performance contracts and hence in assisting such projects to have access to commercial lending at market interest rates.

Information barriers. Information on EE technologies, the effectiveness of EE measures, project development and financing techniques is largely lacking in Bulgaria, partly because of the lack of strong institutional focal point within the government for effective information dissemination, including "good practices." The lack of good information to consumers, the energy service sector and the financial institutions means that many cost-effective opportunities for EE investments are missed.

Weak financial incentives for end-users. In Bulgaria, energy consumption has long been subsidized, with end-user prices kept well below full cost-recovery levels for some consumer groups. This has encouraged inefficient or downright wasteful consumption patterns.

1.3. Government strategy

Historically, energy policies in Bulgaria were heavily supply-oriented, emphasizing increased energy production and positioning the country as the energy center of the Balkans. EE policies were largely based on top-down administrative and legal regulation (standards, consumption quotas, etc.) and failed to tackle the country's serious EE problems in a comprehensive manner. There was a virtual lack of central responsibility for EE policy and implementation with the state Energy Efficiency Agency (EEA) unequipped with adequate policy-making capacity and failing to act as a national center of excellence for EE. Furthermore, even most of the identified EE projects remained unimplemented due to serious shortage of funding and the lack of EE finance market. The reform-oriented government in office since 2001 is undertaking serious efforts to address this legacy by moving (i) from policy formulation to implementation; (ii) from a focus on supply side EE to the demand side; (iii) from isolated EE projects to coherent programs; (iv) from an ineffective EEA to a national center of excellence in policy and implementation; and (v)

from almost exclusive funding from the government and bilateral donors to an EE finance market.

The Government's Energy Strategy (adopted in July 2002), the National Energy Saving Action Plan (adopted in 2003) and the new EE Act (dated March 5, 2004) reflect these new priorities as follows:

- Assigning within the overall energy strategy a key priority to improved energy efficiency to (i) increase industrial competitiveness; (ii) meet European Union (EU) EE and environmental requirements;[2] and (iii) mitigate the environmental impact of energy use through market-based mechanisms and incentives.

- Strengthening the Government's policy-making and implementation capacity by restructuring the EEA under the Ministry of Energy and Energy Resources, moving it from project management to high level policy making and monitoring.

- Creating a supportive policy framework for EE, especially through addressing price distortions in the economy and adjusting energy prices to cost-recovery levels on the fast track, thereby strengthening the financial incentive for EE.[3] The move towards cost-recovery tariffs is critical for achieving market sustainability for the proposed project.

- Promoting the emergence of an EE finance market by the establishment of a commercially oriented revolving EE Fund to demonstrate the financial profitability of investments in the EE sector, thereby catalyzing the creation of a broad-based, sustainable commercial financing for EE projects. The proposed project will provide GEF support for this specific initiative of the GOB.

2. Rationale for GEF involvement

The sector issues noted above, in particular the extreme energy inefficiency and strong financing barriers to EE, along with the Government's credible commitment to address them, provides a compelling case for a GEF-supported contingent finance operation[4] in Bulgaria for building a sustained market-based capacity to develop and finance EE projects on commercial terms under the proposed Bulgaria Energy Efficiency Fund (BEEF or Fund):

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[2] Bulgaria's EE-related obligations to be met for EU membership are specified under chapter 14 (energy) and chapter 22 (environment) of the EU *acquis*. Under these chapters, the GOB undertook to align national legislation and regulation with the relevant environmental and EE directives of the EU.

[3] After a period of inaction, in recent years the GOB has embarked on an aggressive tariff rebalancing strategy under the Bank-supported Programmatic Adjustment Loan (PAL). Under the PAL, the GOB has undertaken to raise the residential electricity tariffs by more than 1.5-fold and residential heat tariffs by 1.3-fold over a three-year period (2002-2004). Residential electricity tariffs in the second half of 2004 stood 30% higher than industrial tariffs (in 2001, they were 10% lower), roughly reaching the cost-recovery level.

[4] Contingent finance instruments such as partial credit guarantees and revolving loan funds allow for highly cost-effective approaches to overcoming financial barriers to otherwise viable projects benefiting the global environment, while at the same time leveraging mainstream private and/or public capital for investments in climate-friendly technologies.

- GEF's lead participation is critical for the establishment of BEEF. Without GEF's significant contribution to the initial capitalization, the Fund project would not proceed in a reasonable time frame. Under this scenario, a certain degree of progress, e.g., on capacity building and some investments financed mostly from internal funds would occur, but broad-based commercially viable EE investments would remain suppressed, as the basic problems (financiers' perception of high risk and high transaction costs, weak capacity to develop bankable projects, etc.) which have impeded investment in the past would remain largely unresolved. All previous attempts to address these barriers either failed (e.g., the grossly under-resourced and poorly designed state-directed National EE Fund established in 1998 and abolished in 1999) or was unable to reach a "critical mass" of sustainability (e.g., the USAID-supported Municipal EE Project).

- GEF contribution to BEEF allows to leverage a high volume of additional financial resources. BEEF provides very high leverage (nearly five times over the first five years and 19 times over 15 years) for GEF funds via (i) direct involvement of commercial banks in profitable EE projects under co-financing and partial credit guarantee arrangements; (ii) building capacity for EE in the financial and energy services sectors; and (iii) the economy-wide demonstration value of financially viable EE projects.

- The underlying conceptual design of the project applies the principle of contingent finance promoted by GEF. The contingent finance modality of BEEF offers exceptionally high energy savings (and associated reduction of GHG emissions) per dollar of BEEF's capitalization while preserving and possibly increasing the initial capital value of the Fund. After successful implementation of the project, remaining GEF resources in BEEF could be made available for potential use in other priority GHG reduction efforts in Bulgaria.

- The concept of commercially oriented, revolving EE Fund is replicable regionally. Most of the transition economies face largely similar conditions, including high energy intensity, huge scope for "win-win" EE projects due to past under-investment and perverse incentives, and the severe financing gap constraining the implementation of these investments.

The project is proposed to the GEF under Operational Program No. 5 (OP-5): Removal of Barriers to Energy Efficiency and Energy Conservation. The specific strategic priorities supported by project in the context of the GEF Business Plan for FY04-06 are: S1 - transformation of markets for high-volume, commercial, low-GHG products or processes; and S2 - increased access to local sources of financing. The relevance of the proposed project for S2 is especially strong since it focuses on mobilizing the resources of local commercial banks and other private financiers by removing actual and perceived barriers to EE investments. Under S2, revolving funds are characterized as one of the proven mechanisms in addressing the financing barriers to EE.

3. Higher level objectives to which the project contributes

3.1. Bulgaria's international obligations under climate protection

The proposed project will help enable Bulgaria to meet its obligations under the United Nations Framework Convention on Climate Change (UNFCCC). Bulgaria ratified the UNFCCC in March 1995. Bulgaria signed a Host-Country Agreement with the Bank's Prototype Carbon Fund (PCF) and is implementing a biomass utilization project with PCF support. The GOB supports the Joint Implementation (JI) mechanisms under the UNFCCC. In 2000, a JI Unit for joint EE projects with Bulgarian and Dutch participation was established. In 2002, a similar agreement was signed with Austria.

The project will also contribute to achieving the Government's objectives under its Environmental Strategy and Action Plan (approved in 2001) in which the huge potential for EE improvement was identified as a key target area for GHG reduction. The Ministry of Environment and Water expressed strong support for the project and the GEF Focal Point endorsed it in March 2003.

3.2. Sector-related World Bank Country Assistance Strategy

The Bank's Country Assistance Strategy (CAS, dated May 31, 2002) is designed to support Bulgaria with reforms that will assist the country in meeting its European Union (EU) accession requirements concerning EE and environmental protection. The energy sector has been considered a laggard in meeting the EE and environmental requirements of the EU. In its annual reports on Bulgaria's progress towards accession, the European Commission has repeatedly expressed serious concern about the very low level of EE and called for the development and implementation of a broad-based EE program in Bulgaria as a matter of strategic policy priority and a requirement of EU accession. A recent Bank report, *Bulgaria: Energy-Environment Review* (November 2001), identified improved EE as a key policy challenge facing the Bulgarian economy in the years ahead. The *Review* demonstrated that efficient energy use is a viable alternative to the rampant expansion of energy supply. The CAS points out that energy utilization should be addressed as a matter of urgency and high priority in order to bring about the large efficiency gains and the associated environmental benefits. In this context, the CAS explicitly includes an EE project to be supported by the GEF. The CAS also has an environmental development objective to support Bulgaria in maintaining headroom for tradable carbon. Reduction of GHG emissions may be purchased by PCF and the OECD countries under separate trading arrangements with governments and/or private entities.

B. PROJECT DESCRIPTION

1. Global Environmental Objective

The global environmental objective of the project is to support a large increase in EE investments in Bulgaria through development of self-sustaining, market-based financing mechanisms. The project's goal is focused on the development and implementation of

financially profitable EE projects, which can provide sustainable and increasing reductions in GHG emissions without relying on public subsidy.

The project would achieve this objective by mitigating the perceived high risk and transaction costs of initial EE investments and overcoming the current barriers to investment through the creation of a revolving EE Fund for the development and financing of commercially viable projects and capacity building support. The Fund would directly support the implementation of a growing number of EE projects on fully commercial terms, demonstrating means to overcome current barriers and make profits on such projects. At least half of the benefits of BEEF-supported projects should come from measurable energy savings. The project will also foster, through both demonstration and explicit partnership, expanded investment by other market participants, such as commercial banks, ESCOs and leasing companies. Without the intervention of the project to overcome the financing barriers on a sustainable basis, it is likely that little progress would be made in EE investment in the years to come, as has been the case in the past decade.[5]

Performance indicators with respect to the project objective include:

- Number of EE projects and associated investment volume with commercial banks participating in financing with BEEF.
- Measurable reduction of GHG emissions from participating sectors and sub-borrowers.
- Number of financial institutions engaged in EE project financing.
- Number of ESCOs engaged in EE project development and implementation.
- Development of a critical mass of commercial EE project development and financing and subsequent emergence of a competitive, self-sustainable national EE market - the pivotal long-term success indicator of BEEF.

2. **Project components**

(see also Annex 4)

GEF financing of US$10 million is being sought under Operational Program 5 to support the establishment and operation of BEEF as a commercially oriented finance facility in a public-private partnership. As a market facilitator, the Fund would combine both technical project development capacity and financial structuring capacity into one entity, thereby addressing the current weak capacity to develop bankable EE projects. Specifically, GEF funds will used to (i)

[5] Very limited investment in EE projects is believed to be the main reason why in the 1990s the energy intensity of GDP fell only marginally in Bulgaria, in contrast with most of the transition economies where it declined considerably (e.g., 40% in Poland and 20% in the Czech Republic). (Source: *Energy Strategy of Bulgaria*, Ministry of Energy and Energy Resources, Sofia, March 2002.) This is despite the fact that Bulgaria's energy intensity is one of the highest among the transition economies (surpassed only by Russia and Ukraine), thus having a disproportionately large energy-saving potential.

provide seed capital for BEEF; (ii) defray initial set-up and operating costs until BEEF reaches financial self-sufficiency; and (iii) partially defray initial costs of EE capacity building (project development, financial packaging, etc.).

Designed as a flexible, market demand-driven facility, BEEF would make available both loans and partial credit guarantees for EE projects. As discussed below (sections B.3 and B.4), at this time Bulgaria needs these financial products to address both liquidity and credit risk barriers to EE financing. This was confirmed by initial market sounding performed during project preparation. Notwithstanding rapid growth of credit supply lately, there are indications of still-insufficient capital market liquidity. Interest rates are still high (between 10% and 18%) despite inflation being contained (at 4%). Commercial bank intermediation relative to the size of the economy is low by any standard, partly as a lingering consequence of the severe economic/financial crisis of 1996-1997. The corporate sector's access to credit (other than short-term working capital credit) is still below the level reached before the crisis. Limited co-financing by BEEF is expected to have a catalytic effect on commercial funding particularly in the early years, thus attracting rather than crowding out private financing.

BEEF is designed with built-in fungibility of funds between the two facilities in response to changing financial market conditions and early implementation experience. It is expected that over time, with gradually improving capital market liquidity, especially in connection with Bulgaria's prospective accession to the EU, the demand for BEEF support will shift in favor of credit enhancement (guarantees). The split between the two windows in the financing plan is indicative only, the actual proportion will be largely market-determined and in favor of the guarantees over time.

Flexible combinations of the two modes of financing are possible: direct loans accompanied by co-financing from other sources, including commercial banks, supported by a BEEF guarantee. The Fund Manager is expected to make rational choices about the appropriate financing instruments based on specific project circumstances, overall project portfolio management considerations, proper risk allocation among project partners, and evolution of the domestic financial market. Thus, BEEF's program structure (reflected in the Operations Manual [OM]) allows for procedures and financing mechanisms to be adjusted based on changing market conditions, demands and early implementation experience.

Under the post-EU accession scenario of much improved capital liquidity, one possibility to be considered is the complete phase-out of the loan facility with a corresponding increase in the volume of guarantee transactions. The market demand trends for loan and guarantees shall be closely tracked under the project monitoring plan to allow for timely adjustments in BEEF's financing strategy.

Initially, the Fund would consist of three components:

- Partial Credit Guarantees (PCG): to share in the credit risk of EE finance transactions and to improve loan terms for sub-project sponsors.
- Investment (Sub-Loan) Financing: to co-finance bankable EE projects on a commercial lending basis.

- Technical Assistance: to initially finance on a grant basis a portion of EE project development, capacity building, information barrier removal and administration costs of the Fund.

The table below summarizes by component the indicative project cost estimates and related indicative financing plan.

Component 1: Partial Credit Guarantees (indicative amount: US$31.1 million, of which US$4.50 million from GEF).[6] Most commercial financiers in Bulgaria are reluctant to finance EE transactions due to their unfamiliarity with such projects and perceived weak client/project credit profiles. This facility (the Guarantee Account [GA]) will be used for credit enhancement purposes to share in the credit risk of EE finance transactions typically up to 70% of the outstanding loan principal of the financial institution involved on a *pari passu* basis (up to 30% on a *first loss* basis).[7] A competitively priced guarantee fee would be charged based on the risk level, with higher risk projects being charged higher fees.

BEEF will act as a credit guarantor, issuing various PCG products based on predefined criteria included in the OM and BEEF's risk tolerance capacity.[8] The can help offset Fund administration costs and possible defaults. Reserves must be liquid to individual guarantee commitments shall not exceed the equivalent of US$500,000 (the guarantee liability limit). The GA will be established in a competitively selected commercial bank. The GA will earn income through interest from the reserve account balance along with guarantee fees, which cover potential guarantee loss claims.

Within thirty days of a guarantee call payment, BEEF shall provide to MEER and the Bank a written report indicating the reasons for the default, its recovery plan and its assessment of the probability of recovery of the amounts in default and thereafter implement the recovery plan approved by BEEF's Management Board. If any amounts are determined by BEEF to be irrevocable, obtain the approval of MEER and the Bank to write off such amounts.

Conditions are suitable in Bulgaria for the guarantee instrument to be successful. Banks are in process of improving liquidity and there is some, albeit still marginal, baseline market activity in credit guarantees (notably, the Municipal EE Program) serving as a positive reference.

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[6] The size of the PCG window is based on the assumption that contributions to the Fund by the GOB, bilateral donors and other financiers would be split in a roughly 60/40 proportion between the guarantee and loan windows. This is an indicative ratio. The actual split will be determined mostly by market demands for the two products.

[7] Up to 70% is an indicative range. However, full (100%) guarantees will not be provided to avoid the moral hazard of high risk projects. As banks gain experience with the actual portfolio performance of EE investments (real risk of defaults), the level of partial guarantee coverage required to overcome their perceived risk is expected to decrease.

[8] The range or credit guarantees can include *pari passu* or first loss, accelerable or non-accelerable products. Under *pari passu,* in the event of payment default there are proportional claims over debt recovery between BEEF and the commercial creditor, while under "first loss" BEEF would be receive what remains of the recovered debt after the creditor satisfied its claim. Under an accelerable PCG, the guarantees could be paid out to the maximum coverage amount at the time of the payment default, while under the non-accelerable type guarantee payments are made in accordance with the original credit repayment schedule. BEEF's risk exposure (on a present value basis) is smaller under the non-accelerable guarantee.

Component 2: Investment (Sub-Loan) Financing (indicative amount: US$16.34 million, of which US$4.00 million from GEF). Under this facility (the Loan Account), sub-loans will be made on a commercial basis to creditworthy customers that will revolve with interest and principal payments into BEEF for additional loans. Indicative lending guidelines are as follows:

Indicative Costs and Financing Plan

Component	Category	Costs		Financing Plan					
		Amount (US$M)	% of Total	GEF (US$M)	% of GEF Finan-cing	GOB (US$M)	Bi- and Multilateral Donors (to be confirmed)* (US$M)	Leveraged Equity Financing by Sub-project Borrowers (US$M)	Lever-aged Commer-cial Co-financing (US$M)
1. Partial Risk Guarantee	Barrier Removal	31.12	62	4.50	45	1.00	2.80	4.06	18.76
2. Loan Financing	Barrier Removal	16.34	34	4.00	40	0.50	2.70	1.78	7.35
3. Technical Assistance	Barrier Removal and Capacity Building	2.05	4	1.50	15	0.30	0.25	0.00	0.00
Total Project Costs		49.51	100	10.00	100	1.80	5.75	5.84	26.12
Total Financing Required		49.51**	100	10.00	100	1.80	5.75	5.84	26.12

* Not all of these resources are expected to be available at project start when the portfolio is relatively small. Some co-financing will be mobilized in years 1-3 in line with the build-up of BEEF's portfolio.

** Includes leveraged co-financing (US$5.84 million in own equity by sub-project sponsors and US$26.12 by commercial financiers).

- Typical projects are expected to be in the range of US$50,000 to US$2,000,000. Projects outside this range are not necessarily excluded, however, financing for projects with large contribution from the Fund would have to ensure adequate risk coverage, including sharing of risks with commercial financiers.

- BEEF loans will be made on a co-financing basis, i.e., in combination with commercial bank loans and equity financing (minimum 10% of total project costs) by the sub-project sponsors.

- GEF funds can be placed in a *first-loss (or subordinated) position* to the commercial funds in order to reduce risks to commercial co-financiers particularly in the early years.
- A well-diversified portfolio of projects to assure a balanced risk/return to BEEF.
- Projects with relatively short payback time (generally not longer than three to four years; maximum length of the tenor set at five years).
- At least half of the project's benefits should come from measurable energy savings.
- The energy saving technology must be well proven in the proposed application.

In addition, project financial support may include equipment leasing, payment for services (e.g., bridge financing for ESCOs to support investment grade energy audit costs) and various combinations of these. The loan products offered may include contingent loans.[9] BEEF may invest equity in carefully selected projects and/or ESCOs.

Component 3: Technical Assistance (indicative amount: US$2.05 million, of which US$1.50 million from GEF). This component covers the following two broad areas:

- *Capacity Building and Information Barrier Removal*: to fund activities in initial project pipeline development (including partial support for audits) and project evaluation, workshops and seminars for potential co-financiers and clients, marketing and dissemination of information, training for Fund Manager and partners of the Fund (banks, ESCOs, consultants, etc.) in EE project development and financing techniques.
- *Fund Administration*: to finance set-up and running costs of the Fund during the first four years, including the salaries of Fund staff, when the Fund is not yet self-financing.

BEEF will manage a sufficiently diverse portfolio in terms of sectors and risks while ensuring that at least half of the benefits in every project come from measurable energy savings. Likely eligible transactions would include investments in projects aimed at improving EE in buildings (e.g., through modernization of heat exchanger substations, heating insulation), industrial processes, municipal facilities (e.g., street lighting) and other energy end-use applications (e.g., lighting, boiler and small cogeneration systems, energy management control systems, power factor correction measures, air compressors, steam traps, fuel switching).

3. Lessons learned and reflected in the project design

(see Annex 2 for more details)

3.1. General lessons

Experience from GEF's overall EE portfolio suggests that even in countries where the local financial market has sufficient size and liquidity, consumers and investors may have limited

[9] The contingent loan may be structured as a temporary liquidity back-stop facility. For example, when a borrower falls into a temporary cash deficiency, BEEF could provide a contingent loan to make up for the shortfall for the debt service to a commercial bank.

access to local financial institutions due to perceptions of high risk, high transaction cost, lack of institutional infrastructure and project development capacity or lack of awareness regarding technologies and their technical/financial performance characteristics. Supporting financial intermediaries and providing risk-sharing instruments to financial institutions (credit risk guarantees and other contingent finance instruments) can be cost-effective ways of addressing these barriers. Microcredit, commercial loan guarantees for ESCOs and revolving loan funds have all been successfully demonstrated in completed GEF projects. With the focus on local financial markets and institutions, such projects have a high likelihood of sustainability and replication.[10]

Apart from the GEF operations, lessons learned from EE Fund experiences worldwide highlight the importance of: (i) keeping the Fund design simple and allowing for some program flexibility to adjust to changing market conditions, demands and initial implementation experience; (ii) transparency of Fund management procedures; (iii) avoidance of political interference, government micro-management and subsidized interest rates; (iv) reliance on existing market participants in building strong partnerships and alliances with financial institutions, ESCOs, consultants and equipment vendors; (v) portfolio diversification; (vi) emphasis on projects with high rates of return; (vii) bundling of small projects; (viii) proactive Fund Manager incentivized in identifying new business and helping applicants improve the quality of their proposals; (ix) building a strong pipeline of finance-ready projects early on; (x) sharing of risks and incentives among all project partners; and (xi) integration of financial and technical expertise for the development of a viable project portfolio. These good practice lessons have been accommodated to the maximum possible extent in the design of the proposed project.

3.2. Lessons/experience from selected relevant EE projects

Bulgaria Municipal EE Program. This USAID-funded project has provided partial credit guarantees (PCG) in favor of the United Bulgarian Bank (UBB) for small-scale municipal EE projects. About two dozen projects (totaling about US$10 million) have been funded with an average payback time of three years. Although the Program has been successful in demonstrating the possibility of commercial EE financing in Bulgaria, it has failed to reach a critical mass for sustainability through developing or catalyzing a large number of additional projects at the national level. The non-revolving nature of the PCG facility has been a shortcoming. Another design problem is the financing monopoly position of UBB, which kept the interest rate and collateral requirements at relatively high levels. A more efficient approach is to work with multiple banks, forcing them to actively compete for bankable EE projects and offer the best possible financing terms to project sponsors.

Hungary EE Co-Financing Program (HEECP). The IFC/GEF-supported HEECP is designed to overcome barriers to EE project finance and development via a PCG program to share in the credit risk of EE operations undertaken by domestic financial institutions and a TA program to help prepare projects and aid general EE market development. HEECP has now a strong

[10] Important good practice lessons from the World Bank's GEF EE portfolio were outlined in a recent Bank report "World Bank GEF Energy Efficiency Portfolio Review and Practitioners' Handbook" (January 2004).

pipeline of projects with an average size of US$250,000. HEECP has been instrumental in establishing active competition between Hungarian banks to develop and market project financing products. The TA program is designed to be flexible and results-oriented responding to and directly supporting the specific needs of the individual ESCOs and financial institutions executing the transactions supported by the facility. Because of the wide range of end-user sectors, niche financial products have been developed. Another important lesson learnt under HEECP is the streamlined credit approval process which minimizes transaction costs. Building on the model successfully demonstrated under HEECP, IFC is implementing a new PCG project with co-financing from GEF called *Commercializing EE Finance* (CEEF) for five EU accession countries (Czech Republic, Slovakia, Estonia, Latvia and Lithuania).

Romania EE Project (GEF). In some respects, BEEF is an application of the concept of the Romanian project. Both projects involve a revolving fund. Like in Romania, inadequate bank liquidity calls for the inclusion of a loan component in BEEF. However, BEEF will also provide PCGs, thus considerably enhancing the contingent finance nature of the project. Experience under the Municipal EE Program in Bulgaria, HEECP and CEEF confirms the need for a guarantee instrument in the current stage of development of Bulgaria's commercial banking sector characterized by highly risk-averse behavior. During the initial market sounding, Bulgarian commercial banks indicated a strong preference for credit risk coverage prior to shifting to non-guaranteed debt financing of EE projects.

4. Alternatives considered and reasons for rejection

Several alternative project approaches were considered, including:

- *Stand-alone IBRD loan or blend (IBRD loan/GEF grant).* This possibility was not pursued after receiving strong indications about the lack of willingness of the Ministry of Finance to provide sovereign guarantees to new projects in the energy sector.

- *Dedicated EE credit line administered through financial intermediaries.* Experiences with IBRD, IFC and EBRD credit lines indicate that they have suffered from slow disbursement or cancellation of funds.[11] Generally, commercial banks are not familiar with assessing the financial aspects of EE projects and lack trust that they can deliver the promised energy and financial savings. Lack of experience and expertise in EE efficiency lead to risk-averse lending, high transaction costs, excessive threshold rate of return requirements and over-collateralization. The fundamental problem with credit lines is that they do not address such key EE barriers as weak project development capacity and the perception of high project risk and transaction costs.

[11] For example, under IBRD's Hungary Industrial and Energy Conservation Project only a small fraction of the dedicated EE credit line was disbursed. In Romania, the EBRD/EU PHARE-funded credit line failed due to a lack of interest and lack of commitment to the project by the local bank partner in the scheme. The bank had little EE expertise and no strong incentive to develop this specialized business. No significant experience is available yet on EBRD's new credit line opened in 2004 with several Bulgarian banks. The pilot facility is designed to help promote EE and renewable energy projects in private sector businesses (see also Annex 2, section 2).

- *Support solely for ESCOs.* Lack of ESCOs is not a major concern in Bulgaria as about two dozen exist. However, overall they perform a small volume EE business because of their limited ability to raise equity capital and secure sufficient project financing at affordable terms. The BEEF will help to strengthen Bulgaria' ESCO industry by mitigating the perceived high risk and transaction costs for EE operations.

- *Equity funds.* This approach remains rather uncommon. In a couple of cases, GEF funds were provided as equity to ESCOs, but concerns arose over access to debt finance, divestment protocol and legal issues. The IFC/GEF Renewable Energy and EE Fund (REEF), a global private equity fund established in 1977, has been unable to perform as hoped. The Fund was closed in 2002 and the project is being restructured.

- *Direct funding for specific EE projects.* While some demonstration effect could be expected from extending loans to some Bulgarian business entities for selected high impact EE projects, this approach fails to address the broader systemic shortcoming: lack of functioning EE finance market in the country. Therefore, this approach would not develop sustainable EE financing, let alone bringing about a permanent market impact.

- *BEEF as loan facility only.* This approach was taken for the GEF-supported Romania EE Fund. This is justified if inadequate capital market liquidity is the key obstacle to EE financing. However, the Project Team concluded--in agreement with Bulgarian stakeholders, including commercial banks contacted under initial market sounding--that the loan window should be complemented by a guarantee component in view of weak client and project credit profiles of EE investments as perceived by the banks. Several major banks[12] signaled a strong preference for a specific risk management tool to allow EE projects to be funded that otherwise might not be funded because of credit concerns. In fact, it is expected that with prospective improvements in banking liquidity, the demand for BEEF support will increasingly shift in favor of the guarantees, which have a higher finance leveraging impact than loans.

C. IMPLEMENTATION

1. Partnership arrangements

The GOB undertook to co-financing BEEF's seed capital in the amount of BGN 3.0 million (US$1.8 equivalent). Prior to negotiations, the Bank received satisfactory documentary evidence that on December 15, 2004 MEER transferred BGN 3.0 million to BEEF's account opened at Biochim Commercial Bank.

In accordance with the indicative project financing plan (see table above), a total of US$5.50 million in donor support is being sought in contributions to BEEF's seed capital. Additionally, small TA (US$0.25 million equivalent) is expected from EU/PHARE to support capacity

[12] United Bulgarian Bank, Raiffeisen Bank, Biochim, Bulbank.

building and training activities to be defined in detail. As not all co-financing resources are needed at project start-up (when the portfolio is relatively small), some will be raised later as BEEF's project portfolio builds up. The financing partnerships will be structured as parallel financing, with each donor concluding a separate contribution agreement with the responsible agency of the GOB for BEEF, the Ministry of Energy and Energy Resources (MEER), which is in charge of coordinating the partnership arrangements. The nature of these agreements is expected to vary from donor to donor. The Government of Austria undertook to contribute EUR 1.5 million (about US$1.8 million) in grant to BEEF's seed capital.

Since GEF funds and co-financiers' funds will not be commingled, procurement and disbursements under the project will not be influenced by the specific co-financing arrangements. Some bilateral donors may require that their resources in the Fund be used for self-standing projects.

The project is closely coordinated with other major development partners (UNDP, USAID, EBRD, EU/PHARE) involved in advancing the EE agenda in Bulgaria. The primary aim of the coordination is to exchange information and to avoid the duplication of donor efforts. A limited indicative pipeline of EE projects developed under UNDP-GEF Gabrovo pilot project has been shared with the project team to inform of the key performance characteristics of an illustrative subset of "initial years" municipal EE portfolio. UNDP is developing a proposal for a Bulgaria GEF project focusing on EE-awareness and capacity building to develop bankable EE projects, including those for potential BEEF financing. This UNDP operation needs to be closely coordinated with the TA component of the subject project. Close working relation has already been established with the Bulgarian NGO, EnEffect, which is the proposed implementing agency for the UNDP project. Close collaboration was established with the USAID Bulgaria Municipal EE Program under which a strong pipeline (in excess of US$10 million) was developed. A part of this pipeline is expected to be eligible for loan financing or partial credit guarantees under BEEF. There have been regular information exchanges with the EBRD under its ongoing EE credit line project. EU/PHARE is part of the project financing plan under the TA component. Looking ahead, the Bank intends to propose a formalized coordination between the major donors concerned in the framework of semi-annual donor coordination meetings.

2. Institutional and implementation arrangements

2.1. Governance structure of BEEF

The project beneficiary is the Bulgaria Energy Efficiency Fund which was established on November 5, 2004, under public-private partnership pursuant to the EE Act (chapter 4, section 1). BEEF is an independent legal entity specialized in financing EE investments on a commercial basis. The recipient of the GEF grant on behalf of the GOB will be MEER with which the World Bank concludes a Grant Agreement. The final grant beneficiary will be BEEF under a Subsidiary Grant Agreement with MEER and a Project Agreement with the Bank. Duly executed Subsidiary Grant Agreement is a condition for grant effectiveness. Details of the governance structure, including appointment and compensation arrangements for BEEF staff and the Management Board (MB), are included in BEEF's Legal Statute (LS) and Operations Manual (OM) [both are in the Project File]. A key design principle was to keep BEEF simple and

flexible, avoiding complex procedures and structure. The OM contains a set of standard operating policies and procedures for BEEF. Adoption by BEEF (MB) of an OM acceptable to the Bank is a condition of disbursement through BEEF. BEEF should carry out the project in accordance with the OM. The LS and the OM shall not be amended without prior concurrence of the Bank.

The following key features are included in the LS and OM:

Management Board. BEEF is governed by a MB, which determines, in association with the key donors, BEEF's general strategy and policies, decides by majority vote on the proposals for project financing/guarantees, appoints the Fund Manager (FM), approves BEEF's annual operational budget, and oversees all BEEF operations. The Board consists of seven members from the public and private sectors as follows: (i) two representatives appointed by the Minister of MEER (one from the EEA); (ii) a representative appointed by the Minister of Environment and Water; and (iii) four representatives of the private sector with good reputation and solid financial background and skills in EE. The private sector members were selected from concerned stakeholders in a special meeting convened by the Chair of the Board pursuant to the EE Act and the LS.

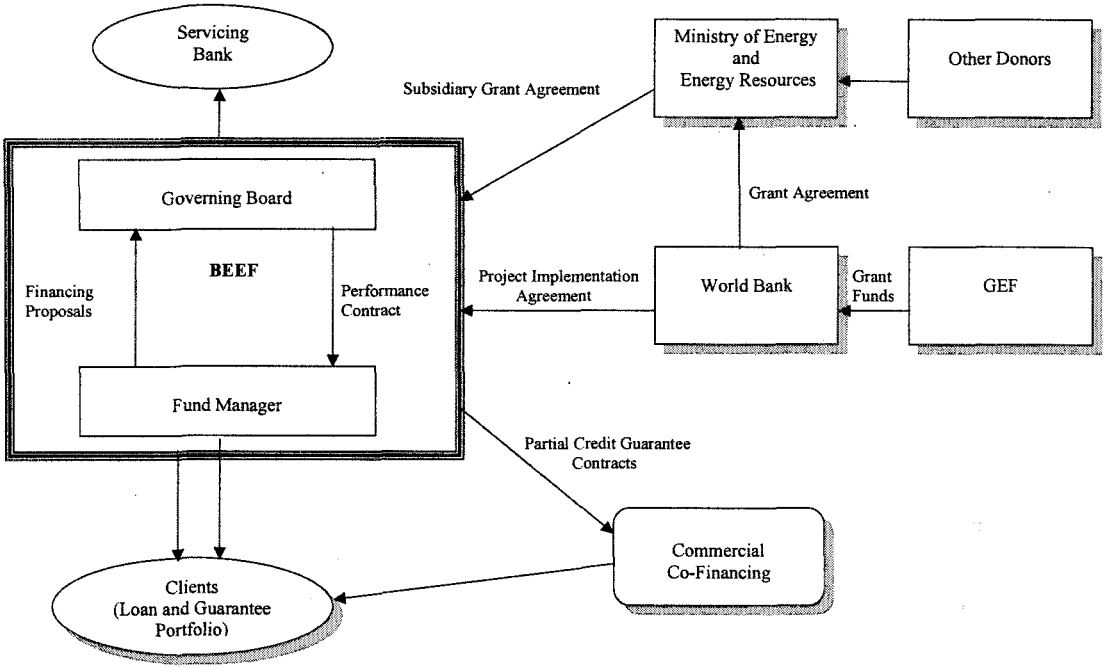
The appointed representative of MEER is the first Chair of the MB, a mandate that he/she shall hold for two years. The Chair shall have good reputation, strong management skills and a basic understanding of EE finance. Upon expiry of the first Chair's mandate, the members of the Board shall elect a new Chair from amongst the members of the Board for one year. The tenure of the members of the Board is two years. All appointments, including the Chair, are subject to prior consultation with the Bank. The first Chairman was appointed on September 1, 2004, following prior consultation with the Bank. The MB was constituted on November 12, 2004, after proper consultation with the Bank.

Fund Manager. The day-to-day activity of BEEF is administered by a professional FM appointed by the Board following a competitive selection process in compliance with Bank procurement rules. Appointment of the FM is subject to "no objection" from the Bank, which will finance the salaries of Fund staff in the first five years when the Fund is not yet financially self-sufficient.

The FM consists of a small core team of technical and financial experts in EE project development and finance as well as limited technical support staff. The FM team is headed by the Executive Director who represents BEEF and interacts directly with the Board. The FM will need to outsource some technical and financial services to consultants to minimize overhead costs. The FM is engaged under a five-year performance contract, which is subject to review and negotiations after two years, and may be extended beyond five years if required, and subject to successful performance. The FM should be incentivized to be proactive in identifying high volumes of successful projects and helping applicants improve the quality of their proposals. The FM 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 will be paid from the TA component during the first four years and thereafter from the Fund's income. The deal origination/closing fee will be paid by borrowers in line with prevailing market norms and

practices in Bulgaria. The success fee will be paid from revenues 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. After year 5, there is an option for BEEF to negotiate an additional three-year contract. Appointment of the FM under terms satisfactory to the Bank is a condition grant effectiveness.

ORGANIZATION OF BEEF



It is expected that BEEF will administer GEF funds for about 15 years.[13] According to the financial model developed for the project, this implementation time is sufficient to demonstrate successful operation. Thereafter, the private financial sector can fully take over funding for EE on a sustainable basis (for details of the proposed GEF exit strategy, see section C.4.3 below). The World Bank project implementation period will last five years, during which GEF funds will have been fully disbursed. After World Bank project closure, MEER will conduct appropriate monitoring and oversight of BEEF's performance as provided under the Subsidiary Grant Agreement.

[13] Fifteen years is an indicative time frame. An earlier closure may be feasible, especially if BEEF achieves a sustainable market impact well before 15 years.

2.2. Client Relationship

Reflecting international good practice, BEEF will be designed as a one-stop shop and client-friendly entity. Accordingly, its internal procedures will have to be streamlined, in order to provide efficient services in project development and financing. The two-tier governance structure should work as smoothly as possible. The Executive Director of the FM team is the public face of BEEF for the clients (subproject sponsors) and co-financing partners.

During project preparation, a number of Bulgarian commercial banks were contacted to inform them of the new business opportunities under the proposed project and to gauge their interest in working with BEEF as co-financing partners.[14] The banks indicated a strong desire to cooperate with the Fund. BEEF is expected to conclude General Framework Agreements (GFA) with selected financial institutions. The GFA would include guidelines on project eligibility, financial products offered, feasibility and credit risk assessment procedures between the financing partners, project approval, reporting and monitoring. Specific provisions for each project are to be defined in the individual transaction agreements. The GFA may provide clauses enabling the client to sign only one contract and having to deal only with one provider of financial services.

In order to inform clients on services provided by BEEF, a coherent communication strategy will be developed and implemented within six months after the selection of the FM. As part of the strategy, a Web site for BEEF promotion will be put in place to provide information to potential clients to determine whether they are eligible for BEEF's financial services. Through this medium and other more traditional means such as workshops and mass media, the potential clients and financing partners will be informed on the benefits of EE investments, eligibility criteria for projects, loan/guarantee conditions (interest rate/guarantee fee, repayment time schedule, collateral, environmental and monitoring requirements), BEEF procedures for project development support (energy audit, business plan preparation, training opportunities, etc.) and loan/guarantee approval.

Selected partners such as professional and employers associations, ESCOs and business advisory centers will be contacted and informed about BEEF services. During the initial implementation period of the project, these stakeholders and partners will be exposed, through workshops and seminars, to BEEF objectives and procedures so as to develop proposals targeted at the requirements of the Fund. The FM will also work with appropriate partners in the development of innovative financing techniques (e.g., pooling of small projects) to provide financing for less creditworthy clients. 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 financing arrangements.

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[14] The banks are as follows: United Bulgarian Bank, Bulbank, Raiffeisenbank, HVB Biochim, OTP/DSK, SG Expressbank, Post Bank. For more details, see the report "Bulgarian Energy Efficiency Fund: Co-financing Proposal" in the Project File.

3. Monitoring and evaluation of outcomes/results

A monitoring and evaluation system will be put in place to assess the project's effectiveness during implementation and after the project is completed. A results monitoring framework (see Annex 3 for details) was set up focusing on the global development objective to be achieved and the intermediate and/or final results expected from implementing each individual project component. The framework includes specific and monitorable performance indicators such as the number of ESCOs and financial institutions entering the EE market, EE investments leveraged by BEEF and the associated GHG emission reduction, and financial sustainability of BEEF.

In the early years, it is expected that a number of implementation issues will arise that need to be addressed quickly. Initial project proposals will test the robustness of the BEEF procedures and the FM's capacity to follow them. Therefore, intensive efforts must be made to closely monitor and assess these initial transactions and to adjust procedures as required and use early successes to further market the Fund. BEEF's credibility will depend on its ability to generate successful projects, which then should be widely disseminated.

Project monitoring and evaluation activities will be carried out under the responsibility of BEEF, which will submit semi-annual project reports to the Bank. A simple management information system for project monitoring and evaluation will be developed by the FM, covering, *inter alia*, the project pipeline, amount invested, loans not requiring guarantees, cost-sharing with financing partners, cost-effectiveness of projects, defaults, fund reflows, energy saved and GHG reduction.

BEEF shall review with the Bank all proposals considered for sub-loan financing and PCGs and receive the approval of the Bank prior to its entering into financing agreements in its first year of operation.

Not later than December 31 of each year during project execution, commencing on December 31, 2005, BEEF shall furnish to the Bank and MEER a draft annual business plan and incorporate the Bank's recommendations prior to submitting it to the Management Board for approval.

By no later than October 31 of each year, commencing on October 31, 2005, until completion of the project, BEEF shall furnish to the Bank for its approval a draft annual budget and adopt the agreed budget prior to December 31 of that respective year.

BEEF will be required to continue reporting performance to the GOB after World Bank project closure. Over time, monitoring/evaluation reports should cover the broader market impact and indicators tracking the development of a sustainable national EE market based on periodic market surveys.

A significant Bank supervision effort will be required, particularly during the first two-three years when BEEF will establish itself and its operations and coordination with the co-financier will be developed. 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 will be required for supervision by the Bank.

A mid-term review will be carried out to assess overall project progress. This review will include an in-depth assessment of the institutional and financial sustainability of BEEF, its initial impact on the broader EE sector and the lessons learnt. Based on the outcome of the mid-term review, the Bank will advise BEEF and the GOB to take measures to ensure that the project is successfully completed.

4. Sustainability and Replicability

4.1. Sustainability

The project is expected to yield sustainable EE and global environmental benefits through: (i) building capacity for EE in the financial and energy services sectors; (ii) establishing and demonstrating the financial profitability of EE investments; and (iii) catalyzing through explicit business partnerships substantial commercial financing for EE projects. The project concept is based on the principles of commercially viable operation. After the initial GEF capitalization of the Fund is expensed, its further operation will be supported through repayments by the project borrowers.

The overarching objective of BEEF is to build a sustained market-based capacity to develop and finance EE operations on commercial terms. Therefore, the long-term success of BEEF is linked to the emergence of a competitive, self-sustainable national EE market in Bulgaria. This market is expected to grow and mature even when BEEF's guarantee and loan facilities are no longer available to support new transactions. BEEF will have fulfilled its role of introducing financial institutions to a sizable untapped business potential and helping both ESCOs and financial institutions to develop their capacity to exploit that potential.

The initial disproportionately large benefits expected from the project in terms of low cost of CO_2 emission reduction may not be possible to sustain for an extended period of time as the availability of cheap carbon reductions should gradually decline over time. However, this will occur only inasmuch as the available "early win" possibilities for GHG reductions are successfully utilized.

4.2. Domestic Scale-Up Strategy and Replicability

During the first five years (the World Bank project period), the value of BEEF-facilitated EE investments is estimated at US$48 million, which is a fraction of the overall EE market in Bulgaria. The potential for national scale-up after World Bank project closure is considerable given the large value (US$260 million) EE investments with a payback period of up to three years identified but unrealized under the government's medium term National Energy Saving Action Plan. Scale-up activities are integral part of the project and include specifically the following: (i) after Bank project closure, BEEF will administer on a revolving basis the GEF funds for additional ten years under GOB oversight (during this period about US$146 million of additional EE investments are expected to be mobilized by BEEF); (ii) intensive nationwide marketing of Fund products to targeted clients and offering services to build broad-based capacity for development and packaging of bankable EE projects; (iii) active information dissemination by BEEF about successful EE projects, highlighting financial benefits for

subproject sponsors and commercial co-financing partners; (iv) continued Bank dialogue with the GOB on further strengthening the enabling policy framework for economy-wide EE implementation; and (v) Bank-initiated donor coordination with a view to synergize existing efforts (e.g., between the proposed capacity building-focused UNDP project and the finance-focused subject project), ensuring that they together lead to a sustained market transformation.

With its focus on local financial markets and institutions, the project has a high potential for cross-country replication. Most of the transition economies face largely similar conditions, including high energy intensity, vast scope for "win-win" EE projects due to past under-investment and wasteful consumption patterns, and the severe financing gap constraining the implementation of viable EE investments.

4.3. GEF exit strategy

The ultimate exit strategy for GEF funds should depend on the success of the project. The GOB, BEEF and the Bank shall agree the specific exit strategy in year four or five of project implementation. At that time, based on initial performance characteristics (deal flow, average payback time, etc.) of the early years portfolio, longer term projections of BEEF's financial performance will be more robust, thus allowing to better estimate the amount of funds remaining in BEEF after a 15-year period, the indicative life of the Fund. GEF funds will be disbursed over a period of four years. After World Bank project closure in year five, BEEF will administer the funds for about ten more years under GOB (MEER) oversight. MEER and BEEF shall prepare and review with the Bank, not later than six months before the grant closing date, a plan for the continued achievement of the objectives of the project. The plan shall include an exist strategy for the GEF funds remaining in BEEF upon its closure (in year 15).

By the year four or five, much improved liquidity and increased financial institution entry into the EE market are expected to reduce the demand for BEEF loans. The demand for credit enhancement may also recede over the longer term as commercial financiers become more familiar with EE projects and the actual default risk proves to be smaller than initially perceived.[15] At this juncture, one possible exit strategy is to withdraw or sell the "GEF shares" in BEEF through a transparent process once a set of criteria indicating satisfactory outcome have been met, and for those funds to be used by the GOB for mutually agreed GHG mitigation projects that are in line with the GEF global objectives.

If monitoring and evaluation reports indicate that the program objectives are not being met and/or BEEF is not likely to reach self-financing by 2010, the following scenarios could be considered: (i) if there are reasonable prospects of reaching self-financing in the subsequent two-three years, then explore other sources of funding for meeting Fund operating costs, including adjusting operating costs to match the available resources; and (ii) close the project earlier than scheduled, especially if there is no strong possibility that the program objectives can be met

[15] Hungary's experience shows the gap between real versus perceived risk by financial institutions. In 1991-2000, the Hungarian EE Credit Fund (HEECP) made more than 450 loans and only ten borrowers defaulted. Excellent payment performance has been demonstrated also under HEECP (with total losses on the outstanding loans guaranteed representing less than 2% of the total loan value guaranteed).

within a reasonable period of time with appropriate remedial measures. In this case, any unutilized GEF funds will be returned to GEF at the close of the project, and the funds recovered by BEEF may be allowed to be utilized for other GHG mitigation activities by GOB in consultation with the Bank and GEF.

5. Critical risks and possible controversial aspects

BEEF will face several challenges in establishing itself as a self-sustaining commercial vehicle for EE financing and in achieving a broad-based market impact in the long run. Recognizing the existence of these risks, the project design incorporates corresponding mitigation measures to manage these risks to the extent possible. Weighing all key risk factors, the project was given an overall rating of "substantial risk."

The following general good practice risk management tools were applied: (i) *Flexibility:* BEEF is designed with adequate built-in flexibility to adjust internal procedures, implementation capacity, business strategy, financial products offered, targeted clients and business partners to changing conditions; (ii) *Risk sharing:* BEEF's design incorporates the principle of sharing risks among all project partners (i.e., commercial lenders, ESCOs, equipment suppliers, project sponsors) to avoid moral hazard, based on comparative advantages of the participants (i.e., technical risks to ESCOs, credit risks to banks, equipment performance risks to suppliers, operating risks to end-users); and (iii) *Incentives:* recognizing that an effective proactive FM is key to success, BEEF includes a competitive remuneration package with incentives for successful performance.

The main risk factors and the propose mitigation measures are outlined below. The deal flow merits special attention. Based on international experience, having a sufficient deal flow is a key challenge for the proposed project. To address this risk, a strong pipeline of finance-ready projects needs to be built early on. Therefore, both the GEF project preparation grant (which includes pipeline development as a stand-alone task) and the TA component of the project were designed to support activities in initial pipeline development.

Risk	Risk Rating	Risk Mitigation Measures
Weak supportive macroeconomic environment for EE projects.	N	• Adjust energy prices to cost-reflective levels (substantially completed under the Bank's ongoing PAL operation). • Legal/taxation/institutional issues addressed by new EE Law. • Long-term country macroeconomic outlook is favorable.
BEEF's size and leverage my not be large enough to create a sustained market impact.	S	• Obtain GOB, bilateral and multilateral donor contributions during project preparation and implementation. Use early successes and associated rise in the Fund's credibility to mobilize additional donor contributions, including in the framework of GHG emissions trading. • Build capacity for EE in the financial and energy service sectors. • Catalyze substantial commercial co-financing through both demonstration effects of successful projects and business partnerships.
Inadequate governance structure negatively impacts on BEEF's commercial orientation.	S	• Establish BEEF as a public-private partnership to avoid politicization and potential GOB micromanagement. • GOB-appointed members of the Management Board (MB) to be in minority. • MB appointments are subject to prior consultation with the Bank.

Projected energy and GHG savings are not achieved.	S	• Ensure that at least half of the sub-project benefits come from measurable energy savings. Monitor and evaluate actual compliance to enable quick corrective actions. • Ensure that the energy saving technology is well proven in the proposed application. • During project development, engage own engineering and financial staff and/or external consultants equipped with best practices. • Share risks among equipment/technology suppliers, ESCOs and sub-project sponsors.
Effective Fund Manager (FM) cannot be retained.	S	• Based on initial market soundings, there is a small pool of potential FM candidates with satisfactory qualifications. • Hire the best qualified candidate competitively following Bank procurement rules. • Incentivize the FM to act proactively, identifying high volumes of new business and helping applicants improve their proposals.
Insufficient deal flow due to lack of sub-project client interest prevents BEEF from achieving self-financing in year 5 and profitability thereafter.	H	• Preliminary pipeline development points to the availability of a large pool of bankable projects with short payback times. • Market intensively Fund products to targeted clients and offer help in packaging of projects (initially under the TA component). • Build a strong pipeline of finance-ready projects early on.
Local financial institutions do not provide sufficient co-financing.	M	• Market BEEF to local FIs early on. • Conduct periodic workshops and disseminate early successes to encourage competitive co-financing.
Possible initial implementation difficulties may impair BEEF's credibility to generate successful projects.	H	• Design BEEF with adequate built-in flexibility to adjust internal procedures, business strategy and implementation capacity to changing external conditions. • Continually and intensively monitor and evaluate Fund performance.
Default rate of projects exceed anticipated level, potentially damaging BEEF's financial sustainability.	M	• Incentivize the FM to develop high quality proposals having low repayment risk. • Allow Fund resources to be used strictly on a contingent (non-grant) basis to avoid "willful defaulters." • Share risks among all project participants (e.g., requiring co-funding from sub-project sponsors to weed out potential clients with solvency problems; provide PCG up to 70% of the banks' outstanding loan principal). • Avoid placing funds in a few large projects, spreading the risk through diverse project portfolio.
Overall Risk Rating	**S**	

Risk Ratings: H (High Risk), S (Substantial Risk), M (Moderate Risk), N (Negligible or Low Risk).

6. Grant conditions and covenants

Condition for effectiveness:

- The Subsidiary Grant Agreement between MEER and BEEF, satisfactory to the Bank, has been duly executed.
- The Fund Manager (FM) of BEEF has been appointed under terms and conditions satisfactory to the Bank.

Condition for disbursement through BEEF:

- The FMS of BEEF should be satisfactory to the Bank.

- The Operations Manual (OM) acceptable to the Bank has been adopted by BEEF.

During project implementation:

- MEER, while acting as the initial project implementing agency, shall maintain a Financial Management System (FMS) acceptable to the Bank. MEER shall establish a Special Account (SA) in the National Bank of Bulgaria for the purpose of disbursement of GEF funds under the TA component.

- The Legal Statute and the OM of BEEF shall not be amended without prior concurrence of the Bank. BEEF shall carry out the project in accordance with the OM.

- All appointments to BEEF's Management Board (MB) shall be subject to prior consultation with the Bank.

- BEEF shall at all times employ a qualified FM. The FM shall be appointed competitively in compliance with the Bank's procurement rules. The appointment shall be approved by the Bank.

- BEEF's financial statements and project financial statements (including Statement of Expenditures and SA) will be audited by independent auditors acceptable to the Bank and on Terms of Reference acceptable to the Bank. The annual audited statements and audit report will be provided to the Bank within six months of the end of each fiscal year. Not later than six months after grant effectiveness, BEEF shall hire independent auditors under terms and conditions satisfactory to the Bank.

- MEER's accounting software, capable of producing Financial Monitoring Reports (FMRs) in the format required by the Bank for the purpose of project accounting, will be transferred to BEEF following the appointment of the FM.

- BEEF shall maintain a FMS acceptable to the Bank, including system of accounting, reporting, auditing and internal controls. BEEF shall open a SA and a Guarantee Account in a bank acceptable to the Bank.

- BEEF shall execute Guarantee Agreements with commercial banks for individual partial guarantee commitments not to exceed the equivalent of US$500,000 or such amount as may be agreed upon by the Bank from time to time.

- Within thirty days of a guarantee call payment, BEEF shall provide to MEER and the Bank a written report indicating the reasons for the default, its recovery plan and its assessment of the probability of recovery of the amounts in default and thereafter implement the recovery plan approved by BEEF's MB. If any amounts are determined by BEEF to be irrevocable, BEEF shall obtain the approval of MEER and the Bank to write off such amounts.

- BEEF shall review with the Bank all proposals considered for sub-loan financing and partial credit guarantees and receive the approval of the Bank prior to its entering into an financing agreement in its first year of operation.

- By not later than October 31 of each year, commencing on October 31, 2005, until completion of the project, BEEF shall furnish to the Bank for its approval a draft annual budget and adopt the agreed budget prior to December 31 of that respective year.

- Not later than December 31 of each year during project execution, commencing on December 31, 2005, BEEF shall furnish to the Bank and MEER a draft annual business plan and incorporate the Bank's recommendations prior to submitting it to the MB for approval.

- MEER and BEEF shall prepare and review with the Bank, not later than six months before the grant closing date, a plan for the continued achievement of the objectives of the project.

- BEEF shall achieve financial sell-sufficiency by 2010.

- BEEF shall submit to the Bank semi-annual FMRs in the format agreed with the Bank.

- In the third year of its operation, BEEF shall prepare a mid-term project progress report.

- Procurement of goods, works and services financed out of the GEF grant proceeds shall be governed by the Bank's procurement rules as further elaborated in the project Procurement Plan.

APPRAISAL SUMMARY

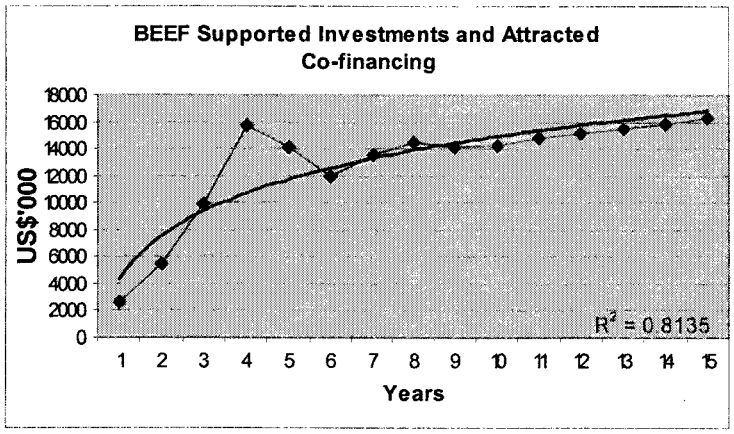
1. Economic and financial analyses

(for more details, see Annex 9 and Annex 15)

Initial Years Project Pipeline. In order to gauge the market potential for EE projects that can be supported by BEEF in the early years, a preliminary market assessment was carried out and an indicative project portfolio was developed based on technical and financial feasibility evaluation. The portfolio includes 44 projects with a total investment cost of about US$29 million, covering a range of economic sectors.

The pipeline shows favorable financial and environmental characteristics based on high operating cost savings from the EE investments. The key summary indicators are as follows:

- Average simple payback time: 2.9 years
- Financial Internal Rate of Return: 33%
- Annual financial savings: about US$10 million
- Energy savings (over projects' life, 11 years on average): 462,000 toe
- GHG emission reduction (over projects' life): 2.2 million tons of CO_2.



Projected Performance of BEEF. To estimate the potential impact of BEEF on EE investments and the resulting GHG reduction impact, a financial model was developed. BEEF will work in a revolving mode, meaning that loan repayments (including interest) are reinvested into new loans and guarantees. Since the guarantee facility will cover typically about 50% of a commercial loan, the amount of financial resources mobilized by it would be twice the amount of the guarantee. The Fund is expected to attract additional co-financing in the form of equity contributions (minimum 10% of total investment costs) from the sub-project borrowers and non-guaranteed co-financing from commercial banks. Based on these assumptions, projections indicate that in the first five years, BEEF would mobilize co-financing in the amount of US$39.5 million, bringing the total available financing to US$47.8 million (excluding TA). This corresponds to a leveraging ratio of 4.8. However, the leveraging impact of the GEF funds can be better evaluated over a 15-year period (BEEF's indicative lifetime) which includes the effect of cash re-flows from lending and guarantee operations. With the repeated revolution of funds, the total financing mobilized is forecast to reach US$193.6 million over 15 years, corresponding to a leveraging ratio of 19.

Asset Value of BEEF. The initial asset value of BEEF is estimated at US$17.55 million. The value of this asset can rise if the income from BEEF operations (comprised of interest income of the revolving loan facility, guarantee fees and interest earned on reserve funds in the guarantee facility) is greater than the costs of Fund administration and project defaults. The final year (year 15) Net Asset Value (NAV) of BEEF is projected to grow to US$21.1 million under the base case scenario. BEEF is expected to achieve financial self-sufficiency by 2010.

Sensitivity Analysis. Scenarios were run to test the robustness of the Fund's performance and identify the key impact variables. The sensitivity analysis was performed for the aggregate value of Fund transactions and the NAV with respect to the following variables: credit spread, default rate, guarantee fee and deal flow. The results suggest that both the cumulative volume of BEEF transactions and the NAV are sufficiently robust. The credit spread is a relatively sensitive variable, but even assuming a 40% decrease in its level relative to the base case value, the 15-year cumulative value of BEEF transactions, at US$95 million, is six times higher the Fund's initial capitalization (US$15.8 million), standing only 10% lower than the base case. Regarding

the NAV, even under a 40% decrease in the credit spread, at US$17.6 million, it is larger than the Fund's initial capitalization.

One of the main risk factors is the potential failure to fully utilize its assets for lack of high quality bankable projects and/or insufficient attractiveness of the terms and conditions offered by the Fund. The Fund requires a large enough deal flow to generate sufficient revenues to cover overhead and operating costs as well as to generate sufficient momentum to ensure sustainability in the EE lending market. A strong initial deal flow considerably improves Fund performance and quickens sustainability, thus devoting sufficient TA to building a strong pipeline of finance-ready projects early on is of great importance. Equally important is to market intensively the Fund products to targeted clients and offer help in the packaging of bankable projects.

2. Technical

N/A

3. Fiduciary

Financial Management

A review was undertaken to determine whether the financial management arrangements for the project are acceptable to the Bank.

A Country Financial Accountability Assessment (CFAA) for Bulgaria was carried out in 2003. The CFAA report concludes that Bulgaria has a well developed-system and structure of public financial management that relies heavily on information technology (such as in the area of cash management), and has independent external audits and parliamentary oversight committees. Sound legislation exists to prepare, implement and monitor the state budget. A major remaining issue, from the perspective of using government financial management systems in Bank-financed projects, is the implementation of a single unified Financial Management Information System, which is currently in progress. Given the current state of public financial management in Bulgaria, the CFAA assesses both the global fiduciary risk to the government and the overall fiduciary risk to Bank project funds as low.

For an initial period (prior to BEEF's becoming operational and having in place acceptable financial management arrangements), the disbursement and financial management arrangements of GEF funds in relation to the TA component will be carried out by the Financial Department of MEER. Based on the results of financial management assessment, the MEER has adequate financial management arrangements in place to manage the upfront expenditures in relation to the establishment of BEEF. Accordingly, it has been concluded that the interim financial management arrangements of the project are acceptable to the Bank and satisfy the Bank's minimum financial management requirements for the management of TA component only.

Once BEEF becomes operational with adequate financial management arrangements in place, it will assume responsibility for the implementation of the TA component. Prior to any disbursement for the TA and the two other project components, BEEF's Financial Management

System (FMS) will need to be assessed as satisfactory to the Bank. A FMS satisfactory to the Bank is a condition of disbursement through BEEF.

4. Social

No negative social impact is anticipated to result from the project. The project is expected to facilitate the emergence and growth of a robust national EE industry. By investing in energy saving measures private sector SMEs will be able to reduce their operating costs and improve competitiveness in domestic and external markets. Thus, the population will benefit through increase in employment. EE projects in the municipal and commercial sectors are expected to make basic public services more affordable and better quality, improving the comfort of the general population. Demand-side EE investments in the residential sector may bring significant social benefits by mitigating the impact of steep increases in residential energy prices while improving the comfort level.[16] The general population will benefit from the positive environmental impacts of the project. Overall, higher end-use efficiency creates a positive link between environmental and social outcomes.

Key project stakeholder groups are as follows: (i) SMEs mostly in the industrial and the service sector, municipalities and housing cooperatives/associations as potential subproject clients (project sponsors); (ii) equipment/materials manufacturers, building design and retrofit contractors, ESCOs and EE consultancies as business partners; (iii) companies in the financial sector, particularly banks, mortgage and leasing companies as co-financiers; and (iv) local environmental and EE advocacy groups and NGOs.

During project preparation, most of these stakeholders were consulted to seek their views on the objectives and design of BEEF and to generate interest in the facility. In June 2002, the project concept was presented to the NGO community in a special workshop. Further outreach actions, including an investors' workshop, are planned. Broad-based participation and public involvement are incorporated in the project design. Organized outreach and public information campaigns are included in the TA component. Primarily, the Fund Manager will be in charge of these activities. In addition, during the EE market assessment, top management and energy managers of companies in the industrial, service and municipal sectors as well ESCOs were engaged with the purpose of both information dissemination and initial project pipeline development. (The market assessment reports are in the Project File.)

5. Environment

The environmental impacts of the proposed project are related to the EE investments supported by BEEF. No significant negative environmental impacts will be caused by the project, which is specifically designed to mitigate GHG emissions through energy savings. Only those projects are eligible for BEEF support for which at least half of the financial benefits come from measurable energy savings. The actually achieved energy saving and GHG emission reduction

[16] The share of energy utilities in the expenditure budget of the average Bulgarian household stood at 12% in recent years and is expected to rise substantially under the ongoing tariff-rebalancing program of the GOB. This share is much higher for the poor (e.g., more than one-third of pensioners' income is spent on energy bills in winter months).

will be systematically monitored by BEEF's MB and the Bank. Competitively selected independent experts will be engaged to verify the reported energy savings and GHG data for each subproject on an annual basis. This requirement is included in the Operations Manual (OM).

Likely subproject candidates are: street lighting improvements, installation of heat exchangers and automatic temperature control and metering in district heating systems, improved thermal insulation of buildings, replacement of network pipes, fuel switching, power factor correction, reconstruction of boilers, installation of small co-generation units, economizers, steam traps and fuel switching. Typically, the subprojects are expected to be relatively small. With investment costs generally not higher than US$1 million, none of them will have any adverse large-scale, significant and/or irreversible environmental impacts.

The Bank's environmental category assigned to the project is "Financial Intermediary" (FI). In an FI project, specific subprojects are identified during implementation and the responsibility for environmental due diligence of subprojects lies with the FI, in this case, BEEF. The OM includes an Environmental Chapter describing the process for environmental assessment of the subprojects.

As described in the Environmental Chapter, compliance with Bulgarian environmental law, policies and procedures will be, in most cases, a necessary and sufficient condition for the Bank's endorsement of financing of subprojects under BEEF. In recent years, Bulgaria has made considerable progress in adapting its Environmental Impact Assessment (EIA) system to international norms. According to the European Commission's *2003 Regular Report on Bulgaria's Progress Towards Accession,* Bulgaria has attained a good degree of legislative alignment with the EU Environmental Directives, and pre-accession negotiations on Chapter 22 (environment) were closed. Provisions of the EU Directive on EIA, which have binding and mandatory power, were found compatible with those under the Bank's OP 4.01. Emissions will be within limits set by Bulgarian law.

Environmental Assessment Process. The Fund Manager of BEEF will include at least one staff qualified[17] to deal with the EIA and environmental management aspects of the subprojects supported by BEEF. Under the Environmental Chapter, every subproject proposal should contain a questionnaire completed by the project sponsor to determine the applicable course of action in accordance with the table below.

BEEF will not finance subprojects which fall within the scope of Annex 1 of the Bulgarian EPA, which are considered comparable to the Bank's Category A projects. Further details are in the Environmental Chapter of the OM disclosed at InfoShop@worldbank.org.

There are two principal situations where exceptions may have to be made from the procedure described above. First, when the Bank determines that the Bank's Category B is appropriate to a given subproject and disagrees with the decision of the Bulgarian authorities to exempt the

[17] As an option, a qualified environmental consultant may be hired by the Fund Manager on an "as needed" basis.

Bulgarian Environmental Protection Act (EPA)	Comparable World Bank Environmental Category (under OP/BP/GP 4.01)	Action Required from BEEF Fund Manager
For subprojects: (i) listed in Annex 1 of EPA; (ii) with probable impact on areas of the National Environmental Network; and (iii) probable transboundary impacts, EIA is required.	Category A – substantial adverse environmental impact/risk	Notify the developer/sponsor that the project is not eligible for financing under BEEF.
Subprojects listed in Annex 2 of EPA for which EIA is required.	Category B – moderate and manageable adverse environmental impact/risk.	Prepare an Environmental Summary Sheet (ESS) describing the steps taken to comply with the Bulgarian EIA and environmental management requirements. Present ESS to the Bank upon request.
Subprojects listed in Annex 2 of EPA for which EIA is not required.	Category C – negligible adverse environmental impact/risk.	Obtain, and present to the Bank upon request, a letter from the competent environmental authority that EIA for the subproject is not required.

subproject from EIA. Unless the decision is reversed and EIA is applied, an Environmental Management Plan should be prepared as required by the Bank for Category B projects. Second, in cases where Bank policies offer greater protection to certain resources of international significance (some types of natural habitats, cultural property, etc.), the Bank may require mitigation measures consistent Bank procedures.

6. Safeguard policies

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP/GP 4.01)	[x]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[x]
Pest Management (OP 4.09)	[ ]	[x]
Cultural Property (OPN 11.03, being revised as OP 4.11)	[ ]	[x]
Involuntary Resettlement (OP/BP 4.12)	[ ]	[x]
Indigenous Peoples (OD 4.20, being revised as OP 4.10)	[ ]	[x]
Forests (OP/BP 4.36)	[ ]	[x]
Safety of Dams (OP/BP 4.37)	[ ]	[x]
Projects in Disputed Areas (OP/BP/GP 7.60)*	[ ]	[x]
Projects on International Waterways (OP/BP/GP 7.50)	[ ]	[x]

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

7. Policy Exceptions and Readiness

This project complies with all applicable Bank policies, requires no policy exceptions and is ready for implementation.

Annex 1: Country and Sector or Program Background

BULGARIA: ENERGY EFFICIENCY PROJECT

1. Country and Sector Context

Compared with the vast majority of the European countries, Bulgaria is an outlier in terms of energy intensity of its economy (see table below). At 0.38 ton of oil equivalent per thousand US$ of GDP (at the Purchase Power Parity exchange rate), the country's energy intensity is more than twice the average value for the European Union. It also exceeds by a considerable margin the energy intensity of the transition economies in Europe. The extreme energy inefficiency is due in part to specific circumstances of Bulgaria, including over-stimulated electricity demand because of historically heavy reliance on grossly underpriced electricity for heating, the virtual lack of low-pressure natural gas market and delays in modernizing the district heating systems. Consumption of electricity is particularly wasteful. In 2001, Bulgaria's electricity intensity of GDP was seven times higher than the OECD average, four times higher than that of Hungary and Turkey, and 60% higher than that of Romania.

Energy and Greenhouse Gas Intensity of GDP

	TPES/GDP (in 2001) (toe per thousand 1995 PPP US$ of GDP	**CO_2/GDP (in 1999)** (kg per PPP US$ of GDP)
Bulgaria	***0.38***	***0.9***
Romania	0.31	0.7
Croatia	0.23	0.6
Slovenia	0.22	0.5
Czech Republic	0.30	0.8
Slovakia	0.31	0.7
Hungary	0.22	0.5
Poland	0.26	0.9
Ukraine	0.72	2.1
Russia	0.67	1.6
Turkey	0.18	0.5
Spain	0.17	0.4
European Union (15)	0.18	0.4
United States	0.25	0.6

Note: TPES: Total Primary Energy Supply; PPP: Purchasing Power Parity; toe: ton of oil equivalent.

Source: International Energy Agency, *Energy Balances of OECD Countries 2001-2001* and *Energy Balances of Non-OECD Countries 2000-2001*, OECD, Paris, 2003; *2003 World Development Indicators,* World Bank, Washington, 2003.

Mirroring the large energy inefficiency, the environmental impact of Bulgaria's economy is disproportionately high. In terms of CO_2 emissions per unit of GDP, Bulgaria is surpassed only by Russia and Ukraine among the European transition economies. Inefficient energy utilization

is one of the reasons for the existence of environmental "hot spots" in the country (e.g., Devnya, Maritsa-Iztok, Galabovo-Radnevoya) where ambient air quality often does not meet national and World Health Organization standards.

Because of the current low efficiency base, Bulgaria has a vast potential to achieve significant EE gains in a cost-effective manner. The saving potential is as high as 50% for existing building stock, 40% for district heating and 30% for industry. The industrial sector accounts for more than half of the savings potential. The Government's *National Energy Saving Program to 2010* identified a vast potential for energy saving and specified a large number of specific EE programs and measures for the various end-use sectors with combined energy savings amounting to 1.4 million tons of oil equivalent per year (or about 15% of total final energy consumption) and CO_2 emissions reduction of 5.6 million tons per year. The most promising low-cost energy saving projects (with payback time of less than 3 years) were included in the medium-term *National Energy Saving Action Plan (2001-2003),* but very few projects have actually been carried out. During 2001-2003, the commercially financed EE investments amounted to US$13 million, which is only 5% of the annual requirements for EE investments included in the *National Energy Saving Program to 2010.* This discrepancy is a good indicator of the large size of the EE finance gap in Bulgaria.

2. Barriers to Energy Efficiency

Albeit opportunities for "win-win" projects (i.e., ones bringing environmental benefits and adequate sufficient financial returns) are abundant given the disproportionately large scope for EE improvements, Bulgaria's EE market is still underdeveloped, failing to produce the needed volume of investment capital. The most serious barriers to the uptake of commercial EE finance are:

Difficult access to finance. Commercial bank intermediation relative to the size of the Bulgarian economy is low by any standard, partly as a lingering consequence of the collapse of the banking system during the severe economic and financial crisis of 1996-1997. The corporate sector's access to credit is low by international standards and is still below the level reached before the 1996-1997 banking crisis. Commercial banks have managed risks by limiting lending volume, demanding high collateralization (200% and higher), charging high interest rates (14%-18%, despite inflation being contained lately at 4%), focusing on short-term lending (with loan maturities of 1-2 years) and investing in low-risk government securities. Loans depend primarily on collateral and less so on proven cash flows. Weak competition allows banks to keep credit low while maintaining high margins. Instead of turning to bank borrowing, SMEs in Bulgaria rely primarily on cash. The loan portfolio of banks is still simple, consisting largely of working capital loans with short maturities and available mostly to well-established firms. The extreme inefficiency of the Bulgarian judicial system makes recovery of debt or seizure of collateral a long-winded process. The perceived high credit risk hurts especially strongly the SMEs, multi-family housing, municipalities, hospitals and other similar energy consumers, which may not have a significant credit history or lack suitable collateral values associated with EE projects.

Perception of high risk for EE projects. In Bulgaria, there is a considerable gap between the real and perceived risk by banks with respect to EE projects. Commercial banks are generally

not familiar with commercial and technical issues involved in EE projects and perceive the risks and transaction costs of EE projects as too high. Benefits of these projects are often seen as "environmental" and "social" and there is skepticism about their financial profitability. The staff in many financial institutions has no experience in dealing with EE investments whose benefits are largely intangible (operating cost savings), favoring instead the more familiar energy supply projects that yield tangible output and revenue increases. Another barrier to the financing of EE projects is their generally small size relative to energy supply projects with which they often must compete for financing. Because of the proportionally higher transaction costs, a small EE project may be no interest to banks or it must have a higher rate of return for the size of the return to be high enough for the financial institution to outweigh the transaction costs. Clearly, a proven track record of commercially profitable EE projects is required to convince lenders that a number of risks are only perceived and can be managed, and that the initial costs of getting into this specialized business are worth incurring or can be partially avoided due to prior experience.

Weak capacity to develop bankable EE projects. The combination of financial and technical skills needed for the preparation of sound EE business plans are largely missing in Bulgaria. Typically there is weak commercial orientation among technical staff and a widespread lack of understanding of financial packaging of projects and isolation from financial institutions. An organization with a limited history of commercial borrowing will almost inevitably also have limited experience in developing compelling business plans. SMEs are too small to have specialist staff experienced in business plan preparation. A poorly constructed business plan is a frequent cause of an otherwise good project being rejected by financial institutions.

Lack of innovative EE financing. Innovative financing, such as energy performance contracting, is hardly used in Bulgaria albeit it can be effective in attracting the necessary capital, often for projects that are deemed too small or risky for financial institutions. This may require "project pooling" by a third party where projects that are individually too small to justify an energy performance contracting arrangement are bundled to make a financially viable package. However, there is no mature and competitive energy service industry in Bulgaria, with most of the private ESCOs having small operations and balance sheets. They tend to suffer from insufficient credibility and trust by both the energy users and the financial institutions that they can deliver the promised energy/financial savings. There is a financing vicious circle, whereby the low credibility and reputation of small ESCOs prevent them from attracting financing partners, let alone receiving competitive financing terms from commercial banks. Modern project-finance concepts (e.g., off-balance sheet financing, equipment leasing) are not widespread. This results in typically higher cost of capital and in the inability to hedge the uncertainty of energy savings. The availability of credit guarantees for performance contracting could be a factor in reducing the credit risk profile of energy performance contracts and hence in assisting such projects to have access to commercial lending at market interest rates.

Information gap. Information on EE technologies, effectiveness of EE measures, project development and financing techniques is largely lacking in Bulgaria, partly because of the lack of strong institutional focal point within the government for effective information dissemination, including "good practices." The lack of user-friendly information to consumers, the energy service sector and the financial institutions means that many cost-effective opportunities for EE investments are missed.

Weak financial incentives for end-users. In Bulgaria, energy consumption has long been subsidized, with end-user prices kept below full cost-recovery levels for some consumer groups. This has encouraged inefficient or downright wasteful consumption patterns.

The proposed project is addressing these barriers through (i) mobilizing the resources of local commercial banks and other private financiers by removing actual and perceived barriers to EE investments; and (ii) building capacity for EE project development and financing techniques.

Annex 2: Major Related Projects Financed by the Bank and/or other Agencies

BULGARIA: ENERGY EFFICIENCY PROJECT

1. Bank-supported

The Word Bank has been involved in the energy sector in Bulgaria through several activities, and the design of BEEF has benefited from the broad knowledge gained through these activities. The key activities include:

- Energy and Environment Review (October 2002). This study highlighted the policy importance of promoting EE, especially in the context of the associated environmental benefits, the EU environmental requirements and the Kyoto Protocol.
- District Heating (DH) Strategy (August 2000). The Bank assisted in the preparation of the government strategy which includes significant policy (tariff adjustments, subsidy removal, disconnection policy, etc.) and demand-side measures (metering, etc.) to improve the currently low EE performance of the DH sector.
- Water Companies Modernization and Restructuring Project (closed on December 31, 2002). Through the DH component of the loan, about 6,000 sub-stations (one-quarter of the total national stock) were rehabilitated resulting in better demand-side management and fuel savings.
- District Heating Project (under implementation). The rehabilitation and the demand-side management measures in Sofia and Pernik heating systems will result in substantial reduction in network heat losses and average household heat consumption. There will be significant associated environmental benefits.
- Programmatic Adjustment Loan (PAL, under implementation). The energy component of the PAL includes significant policy (including a thee-year tariff adjustment schedule for residential electricity and DH) and demand-side measures (under the DH component) yielding substantial energy savings. These and other energy sector reforms are expected to reduce Bulgaria's energy intensity 15% by end-2005 compared to the level at end-2001.
- Wood Residue to Energy Project (PCF project under implementation). The aims to reduce emissions of GHG generated in Svilosa through (i) substitution of coal with residual wood as a fuel for power and heat generation; and (ii) savings of methane emissions from residual wood waste.

2. Other (non-Bank)

UNDP-implemented EE Program. The UNDP championed the EE agenda in Bulgaria through the Gabrovo pilot project and subsequent development of a network of demonstration zones for energy efficient municipalities that currently counts 39 municipalities and 6 regional municipal associations. This network was created following an education project funded by the UNDP and a small GEF grant. The project has demonstrated the usefulness of EE awareness within municipalities. Also, a number of business plans have been developed for bankable EE projects,

focusing on street lighting and schools. Presently, the UNDP is planning a follow-on proposal (UNDP/GEF Public-Private Partnerships for EE Project) to further strengthen local capacity to develop and finance the bankable projects originally identified. In this context, UNDP-GEF has indicated that it would welcome the opportunity created by BEEF to finance these bankable projects. In addition, UNDP-GEF will engage with the Bank in discussions regarding the TA component of the proposed project, especially concerning capacity building.

The SAVE II Study. The *Study on the Implementation of a Widespread Energy Saving Program in Bulgaria* (2001) provided an in-depth review of Bulgaria's energy conservation opportunities and identified a vast potential for energy savings. A Study's long-term energy-saving program include more than 80 EE measures in various end-use sectors with combined energy savings of 1.4 mtoe/year (or about 15% of total final energy consumption) and associated CO_2 emissions reduction of 5.6 million tons per year. The most promising low-cost energy saving projects (with payback time of less than 3 years) were included in the three-year (2001-2003) *National Energy Saving Action Plan*. However, very few of these projects (about 5%) have materialized due to a lack of financing.

USAID Municipal EE Program. The US-based company Electrotek Concepts developed small-scale operations under the Program, which has provided partial credit guarantees (PCG) in favor of the United Bulgarian Bank (UBB) for small municipal EE projects. About two dozen projects have been funded with an average payback time of three years. Although the Program has been successful in demonstrating the possibility of commercial EE financing in Bulgaria, it has failed to reach a critical mass for sustainability through developing a large number of additional projects at the national level.[18] A major shortcoming has been the financing monopoly of UBB under the Program. The non-revolving nature of the PCG facility has also been problematic.

EBRD Energy Efficiency and Renewable Energy Credit Line. In March 2004, the EBRD extended credit lines to participating Bulgarian banks for on-lending to the private sector enterprises for industrial EE and small renewable energy projects. EBRD funds of up to EUR 50 million are complemented by the Kozloduy International Decommissioning and Support Fund (KIDSF) grant funding to provide technical assistance for project development, promotion of better energy management and provision of the sub-borrowers with financial incentives (grant) to undertake EE investments.

IFC/GEF Hungary EE Co-Financing Program (HEECP). HEECP (launched in 1997) was designed to overcome barriers to EE project finance and development via a PCG program to share in the credit risk of EE undertaken by domestic financial institutions (FIs) and a TA program to help prepare EE projects and aid general EE market development. HEECP has now a strong pipeline of projects with an average project size of US$250,000. HEECP has been instrumental in establishing active competition between Hungarian banks to develop and market EE project financing products in order to capture shares of the new EE segment in the financial

[18] USAID is developing the Balkan Investment Development (BID) Facility for feasibility studies for infrastructure projects (including EE) in South-East Europe.

sector. The TA program is designed to be flexible and results-oriented responding to and directly supporting the specific needs of the individual ESCOs and FIs which actually execute the transactions supported by the facility. Because of the wide range of end-user sectors, niche financial products have been developed under HEECP for EE financing for multi-family housing, municipal street-lighting, district heating, industrial cogeneration and hospitals, with financing offered both directly to end-users and to ESCOs. Another important lesson learnt under HEECP is the streamlined credit approval process which minimizes transaction costs associated with the FIs' participation. Building on the model successfully demonstrated under HEECP, IFC is implementing a new PCG project with co-financing from GEF called *Commercializing EE Finance* for five transition countries (Czech Republic, Slovakia, Estonia, Latvia and Lithuania).

Romania EE Project (GEF). In some respects, the BEEF project is an application of the same project concept in a country with a relatively larger energy saving potential and a somewhat stronger (but far from self-sustained) EE finance market to build on. Both projects involve a revolving fund. Like in Romania (but unlike in Hungary), inadequate bank liquidity calls for the inclusion of a loan window in the design of BEEF for Bulgaria. However, in addition to loans, BEEF will provide PCGs, thus considerably enhancing the contingent finance nature of the project. The limited experience under the USAID Program and HEECP in Hungary underscore the need for a guarantee instrument in the current stage of development of Bulgaria's banking sector characterized by highly risk-averse behavior. During initial market assessment, several commercial banks indicated a strong preference for some form of credit risk coverage before shifting to straight loan financing of EE projects. BEEF's most salient improvement *vis-à-vis* the USAID Program is the engagement of multiple commercial banks to actively compete with one another for providing the best financial terms to the borrowers. This lesson is also drawn from HEECP in Hungary. In addition, the Romania EE project has exposed the risk of adopting a possibly inefficient remuneration package for the Fund Manager. Initial implementation experience argues for a smaller fixed fee and a higher performance-based retainer.

3. General lessons/experience from EE projects worldwide

Experience from GEF's overall EE portfolio suggests that even in countries where the local financial market has sufficient size and liquidity, consumers and investors may have limited access to local FIs due to perceptions of high risk, high transaction cost, lack of institutional infrastructure and project development capacity or lack of awareness regarding technologies and their technical and financial performance characteristics. Supporting financial intermediaries and providing risk-sharing instruments to FIs (i.e., credit risk guarantees and other contingent finance instruments) can be cost-effective ways of addressing these barriers. Microcredit, commercial loan guarantees for ESCOs and revolving loan funds have all been successfully demonstrated in completed GEF projects. With the focus on local financial markets and institutions, such projects have a high likelihood of sustainability and replicability.

Apart from the GEF, lessons learned from EE Fund experience worldwide highlight the importance of transparency of Fund management procedures, avoidance of political interference and subsidized interest rates, the need to rely on existing market participants, portfolio diversification, emphasis on projects with high rates of return, bundling of small projects,

proactivity of the Fund Manager, and integration of financial and technical expertise for the development of a sound project portfolio. These and the earlier-noted lessons were reflected in the project concept of BEEF and were largely incorporated in the detailed design of the Fund's Operations Manual.

Annex 3: Results Framework and Monitoring

BULGARIA: ENERGY EFFICIENCY PROJECT

Results Framework

Global Environmental Objective	Outcome Indicators	Use of Outcome Information
To support a large increase in EE investments in Bulgaria through development of a self-sustaining, market-based financing mechanism, which can provide sustainable and increasing reductions in GHG emissions.	1. Emergence of a competitive and sustainable national EE market in Bulgaria as indicated by (a) growing number of ESCOs engaged in EE project development and implementation; (b) growing number of FIs engaged in EE project financing; and (c) BEEF-supported EE investments made over first 5 years of project implementation, resulting in estimated GHG reduction of about 3.6 million tons of CO_2. 2. Financial sustainability of BEEF's operation as indicated by (a) its growing Net Asset Value; and (b) achievement of operational incomes sufficient for self-financing (without GEF support) by project completion.	Unsatisfactory progress on outcome indicators may signal shortcomings (e.g., insufficient flexibility to respond to changing market conditions or problems in BEEF's governance structure) in the design and/or operational practices of BEEF, requiring appropriate remedial action(s) during project implementation.
Intermediate Results One per Component	**Results Indicators for Each Component**	**Use of Results Monitoring**
Component 1: Partial Credit Guarantees Growing number of EE projects and investment volume generated through sharing in the credit risk of EE finance transactions.	BEEF's partial credit guarantees will leverage EE investments of about US$27 million over first 5 years of project implementation, potentially taking over an increasing proportion of BEEF's project portfolio if improved commercial banking liquidity reduces the demand for the loan facility.	The degree of reliance on the credit guarantee facility is an essential indicator of the underlying risk perception of the commercial financial institutions for EE operations. For example, a possible combination of persistent high risk perceptions and low demand for the credit facility may signal design and/or operational problems with the credit component (e.g., rigid eligibility criteria, mispricing of the guarantee fee), requiring appropriate corrective actions during project implementation.

Component 2: Investment (Sub-loan) Financing Growing number of EE projects and investment volume generated through co-financing on a commercial basis.	BEEF's loan facility and leveraged commercial co-financing will enable implementation of EE projects totaling US$17 million over first 5 years project implementation.	The level of demand for the loan facility is an important indicator of the evolution of overall capital market liquidity in the country. In addition to possible design problems with this component, possible weak demand for loan financing by BEEF may indicate improving capital market liquidity and a corresponding need for the FM to regroup Fund resources more actively in favor of the guarantee instrument.
Component 3: Technical Assistance Improved domestic capacity to develop finance-ready EE projects.	FM generates a strong pipeline of profitable EE projects with a total investment cost of about US$44 million over first 5 years of project implementation.	Smaller pipeline or project quality problems may signal a variety of problems, including, e.g., the need for (a) additional resources to strengthen project development and financial structuring capacity; (ii) improved financial incentives for the FM to generate new business; (iii) improved partnership arrangements; and (iv) more streamlined loan/guarantee approval procedure within BEEF.

Arrangements for Results Monitoring

Arrangements for Results Monitoring		Target Values					Data Collection and Reporting		
Outcome Indicators	**Baseline**	**2005**	**2006**	**2007**	**2008**	**2009**	**Frequency and Reports**	**Data Collection Instruments**	**Responsibility for Data Collection**
1. Emergence of a competitive and sustainable national EE market as indicated by (a) growing number of ESCOs engaged in EE project development and implementation; (b) growing number of financial institutions (FI) engaged in EE project financing; (c) BEEF leveraging EE investments of US$48m over first 5 years of project implementation; (d) associated energy savings (over life of EE investments); and (e) associated GHG reduction from EE investments (3.6 mt of CO_2 over life of investments).	(a) No. of ESCOs: 18 (b) No. of FIs in EE: 2 (c) --- (d) --- (e) ---	(a) No. of ESCOs: 20 (b) No. of FIs in EE: 3 (c) --- (d) --- (e) ---	(a) No. of ESCOs: 20 (b) No. of FIs in EE: 4 (c) Cumulative EE investments: US$8m (d) Cumulative project life energy savings: 0.16 mtoe (e) Cumulative project life GHG reduction: 0.6 mt CO_2	(a) No. of ESCOs: 25 (b) No. of FIs in EE: 5 (c) Cumulative EE investments: US$18m (d) Cumulative project life energy savings: 0.36 mtoe (e) Cumulative project life GHG reduction: 1.4 mt CO_2	(a) No. of ESCOs: 30 (b) No. of FIs in EE: 7 (c) Cumulative EE investments: US$34m (d) Cumulative project life energy savings: 0.73 mtoe (e) Cumulative project life GHG reduction: 2.5 mt CO_2	(a) No. of ESCOs: 40 (b) No. of FIs in EE: 10 (c) Cumulative EE investments: US$48m (d) Cumulative project life energy savings: 1.03 mtoe (e) Cumulative project life GHG reduction: 3.6 mt CO_2	Annual Annual Semi-annual FMR Semi-annual FMR and annual independent verification report Semi-annual FMR and annual independent verification report	BEEF's own statistics and EEA BEEF's own statistics and EEA BEEF's own statistics BEEF's own statistics and independent assessment BEEF's own statistics and independent assessment	FM and EEA FM and EEA FM FM and independent expert FM and independent expert
2. Financial sustainability of BEEF (level of self-financing)		At least 15% self-financing	At least 20% self-financing	At least 25% self-financing	At least 50% self-financing	At least 75% self-financing (100% in 2010)	Annual audited financial statements	BEEF's own statistics	FM and independent auditor

Results Indicators for Each Component									
Component 1: Partial Credit Guarantees – cumulative portfolio of BEEF projects			EE projects of about US$5m	EE projects of about US$12m	EE projects of about US$22m	EE projects of about US$31m	Semi-annual FMR	BEEF's own statistics	FM
Component 2: Investment Financing – cumulative portfolio of BEEF projects			EE projects of about US$3m	EE projects of about US$6m	EE projects of about US$12m	EE projects of about US$17m	Semi-annual FMR	BEEF's own statistics	FM
Component 3: Technical Assistance		Proposals developed for US$15m worth of EE investments	Proposals developed for additional US$10m worth of EE investments	Proposals developed for additional US$10m worth of EE investments	Proposals developed for additional US$5m worth of EE investments	Proposals developed for additional US$5m worth of EE investments	Semi-annual FMR	BEEF's own statistics	FM

Annex 4: Detailed Project Description

BULGARIA: ENERGY EFFICIENCY PROJECT

The project will support the establishment and initial operation of the Bulgaria Energy Efficiency Fund as a commercially oriented finance facility under public-private partnership. As a market facilitator, BEEF will combine technical project development capacity, financial structuring capacity and market-based financing into one entity, thereby addressing both the current weak capacity to develop bankable EE projects and the severe lack of financing for EE investments. Specifically, GEF funds in the amount of US$10 million will be used to (i) provide seed capital for BEEF; (ii) defray initial set-up and operating costs until BEEF reaches financial self-sufficiency; and (iii) partially defray initial costs of EE capacity building (project development, financial packaging, etc.).

Designed as a flexible, market demand-driven facility, BEEF would make available both loans and partial credit guarantees for EE projects. At this time, Bulgaria needs these financial products to address both liquidity and credit risk barriers to EE financing. Flexible combinations of the two financing modes are possible: direct loans accompanied by co-financing from other sources, including commercial banks, supported by a BEEF guarantee. The FM is expected to make rational choices about the appropriate financing instruments based on specific project circumstances, overall project portfolio management considerations, proper risk allocation among all partners, and evolution of the domestic financial market. Thus, BEEF's program design should allow for procedures and financing mechanisms to be adjusted based on changing market conditions, demands and early implementation experience. In this context, it is expected that over time, with gradually improving capital market liquidity, the demand for BEEF support will shift in favor of credit enhancement (guarantees).

Initially, the Fund would consist of three components:

- Partial Credit Guarantees: to share in the credit risk of EE finance transactions and to improve loan terms for subproject sponsors.
- Investment (Sub-loan) Financing: to co-finance bankable EE projects on a commercial basis.
- Technical Assistance: to initially finance on a grant basis a portion of EE project development, capacity building and administration costs of the Fund.

Component 1: Partial Credit Guarantees (indicative amount: US$31.12 million, of which US$4.50 million from GEF). Most commercial financiers in Bulgaria are reluctant to finance EE transactions due to their unfamiliarity with such projects and perceived weak client/project credit profiles. This facility (the Guarantee Account [GA]) will be used for credit enhancement purposes to share in the credit risk of EE finance transactions up to 70% of the outstanding loan principal of the financial institution involved. A competitively priced guarantee fee would be charged based on the risk level, with higher risk projects being charged higher fees. Minimum 10% of the total project costs must be borne by the sub-project sponsors.

BEEF will act as credit guarantor, issuing PCGs based on predefined criteria and appraisal methods included in the Operations Manual. The individual guarantee commitments shall not exceed the equivalent of US$500,000 (the guarantee liability limit). The GA will be held in a competitively selected commercial bank. The GA will earn income through interest from the reserve account balance along with guarantee fees, which can help offset Fund administration costs and some defaults.

Conditions are suitable in Bulgaria for the guarantee instrument to be successful. A number of banks are in the process of improving liquidity and there is some, albeit still marginal, baseline market activity in guarantees (notably, the Municipal EE Program, see section 3.2) serving as a positive reference.

Component 2: Investment (Sub-loan) Financing (indicative amount: US$16.34 million, of which US$4.00 million from GEF). Under this facility (Loan Account), loans will be made on a commercial basis to creditworthy customers that will revolve with interest and principal payments into BEEF for additional loans. Indicative lending guidelines are as follows:

- The projects are expected to be in the range of US$50,000 to US$2,000,000. Projects outside this range are not excluded, however, financing for projects with large contribution from the Fund would have to ensure adequate risk coverage, including sharing of risks with commercial financiers. While very small projects (much less than US$100,000) are not excluded, BEEF and FIs may not be interested in them because of the high transaction costs. This situation may require "project pooling" by a third party where projects that are individually too small are bundled to make a financially viable package.

- BEEF loans would typically be made on a co-financing basis, i.e., in combination with commercial bank loans and equity financing (a minimum of 10% of the total project costs) by the subproject sponsors.

- GEF funds can be placed in a *first-loss position* to the commercial funds in order to reduce risks and increase incentives for commercial co-financiers in the early years.

- A well-diversified portfolio of projects to assure a balanced risk/return to BEEF.

- Projects with relatively short payback time (generally not longer than three to four years).

- At least half of the project's benefits should come from measurable energy savings.

- The energy saving technology must be well proven in the proposed application.

BEEF is expected to provide the following loan products:

- Cash-flow based term loans made directly to end-users.

- Cash-flow based loans made to ESCOs on a project-by-project basis.

- Performance loans where BEEF partners with a supplier consortium and offers a total project package including engineering, equipment and financing.

In addition, project financial support may include equipment leasing, payment for services (e.g., bridge financing for ESCOs to support investment grade energy audit costs) and various combinations of these.

Since GEF funds and co-financiers' funds will not be commingled, procurement and disbursements under the project will not be influenced by the specific co-financing arrangements. For example, in a *parallel* co-financing arrangement, each co-financier retains control of own funds and coordinates with the FM with respect to sharing the deal flow, due diligence, consultants and structuring concepts and harmonizing the terms of financing among different financing sources, so that the client signs only one financing contract and interfaces with a single point of contact, the FM. In a *direct* co-financing arrangement, the co-financier would establish a dedicated account over which the FM would have control. In this case, the FM is empowered to make disbursements from the account for any eligible transaction (within the context of the General Framework Agreement between BEEF and the co-financier) without the express consent of the co-financier.

Component 3: Technical Assistance (indicative amount: US$2.05 million, of which US$1.50 million from GEF). This component covers the following two broad areas:

- *Capacity Building*: to fund activities in initial project pipeline development (including partial support for audits) and project evaluation, workshops for potential co-financiers and clients, marketing and dissemination of information, training for the FM and partners of the Fund (banks, ESCOs, consultants, etc.) in EE project development and financing techniques.

- *Fund Administration*: to finance set-up and running costs of the Fund, including the salaries of Fund staff, during the first five years when the Fund is not yet fully self-financing.

The TA activities will be carried out under the general responsibility of the FM. The annual business plan prepared by the FM will identify and specify the need for such activities.

BEEF will manage a sufficiently diverse portfolio in terms of sectors and risks while ensuring that at least half of the benefits in every project come from measurable energy savings. Likely eligible transactions would include investments in projects aimed at improving EE in buildings (e.g., through modernization of heat exchanger substations, heating insulation), industrial processes, municipal facilities (e.g., street lighting) and other energy end-use applications (e.g., lighting, boiler and small cogeneration systems, energy management control systems, power factor correction measures, air compressors, steam traps, fuel switching).

Annex 5: Project Costs

BULGARIA: ENERGY EFFICIENCY PROJECT

Project Cost By Component	Local (US$M)	Foreign (US$M)	Total (US$M)
Partial Credit Guarantees	23.82	7.30	31.12
Investment Financing	9.64	6.70	16.34
Technical Assistance	0.30	1.75	2.05
Total Baseline Cost	33.76	15.75	49.45
Physical Contingencies	0.00	0.00	0.00
Price Contingencies	0.00	0.00	0.00
Total Project Costs	33.76	15.75	49.51
Total Financing Required	33.76	15.75	49.51*

Note: Indicative amounts.
* Includes leveraged co-financing (US$5.84 million in own equity by sub-project sponsors and US$26.12 by commercial financiers).

Annex 6: Implementation Arrangements

BULGARIA: ENERGY EFFICIENCY PROJECT

The project beneficiary is the Bulgaria Energy Efficiency Fund established in public-private partnership pursuant to the Energy Efficiency Act (chapter 4, section 1). BEEF is an independent legal entity specialized in financing EE investments on a commercial basis. The immediate recipient of the GEF grant on behalf of the GOB will be the Ministry of Energy and Energy Resources (MEER) with which the Bank concludes a Grant Agreement. The final recipient of the grant will be BEEF under a Subsidiary Grant Agreement with MEER and a Project Agreement with the Bank. Details of the governance structure, including appointment and compensation arrangements for BEEF staff and members of the Management Board (MB), are elaborated in the Legal Statute (LS) and Operations Manual (OM) of BEEF. A key design principle is to keep BEEF simple and flexible, avoiding complex procedures and structure. The following key features are included in the LS and OM:

Management Board. BEEF is governed by the MB, which determines, in association with the key donors, BEEF's general strategy and policies, decides by majority vote on the proposals for project financing/guarantees, appoints the Fund Manager (FM), approves BEEF's annual operational budget and oversees all BEEF operations. The MB consists of seven members from the public and private sectors as follows: (i) two representatives appointed by the Minister of MEER (one from the EEA); (ii) a representative appointed by the Minister of Environment and Water; and (iii) four representatives of the private sector with good reputation and proven EE skills. In November 2004, the private sector members were selected from concerned stakeholders in a special meeting convened by the Chair of the Board pursuant to the EE Act and the LS following prior consultation with the Bank.

The appointed representative of MEER is the first Chairman of the Board, a mandate to be held for two years. He was appointed in November 2004 after prior consultation with the Bank. Upon expiry of the first Chairman's mandate, the members of the Board shall elect a new Chairman from amongst the members of the Board for one year. The tenure of the Board members is two years. All appointments, including the Chairman, are subject to prior consultation with the Bank.

Fund Manager. The day-to-day activity of BEEF is administered by a professional FM team appointed by the Board following a competitive selection process in compliance with Bank procurement rules. Appointment of the FM is subject to approval of the Bank, which will finance the salaries of Fund staff in the first five years when the Fund is not yet financially self-sufficient. The FM team is headed by an Executive Director who is the general legal representative of BEEF.

The FM consists of a small core team of technical and financial experts in EE project development plus limited technical support staff. The FM will need to outsource some technical and financial services to consultants to minimize overhead costs. The FM is engaged under a five-year performance contract, which is subject to review and negotiations after two years, and may be extended beyond five years if required, and subject to successful performance. The FM should be properly incentivized to be proactive in identifying high volumes of successful

projects and helping applicants improve the quality of their proposals. The FM 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 will be paid from the TA component during the first five years and from the Fund's income thereafter. The deal origination (closing) fee may be charged to the borrowers in line with prevailing market practices in Bulgaria. The success fee will be paid from net profits of the Fund at the end of the contract period. The performance-based retainer includes incentives for expanding the client base of the Fund while ensuring that defaults are minimized. After year 5, there is an option for BEEF to negotiate an additional three-year contract. The FM will be selected by, or reasonably soon after, effectiveness of the project.

It is expected that BEEF will administer GEF funds for about 15 years. According to the financial model developed for the project, this implementation time is sufficient to demonstrate successful operation. Thereafter, the private financial sector can fully take over funding for EE on a sustainable basis (for the proposed GEF exit strategy, see section C.4.3 below). The World Bank project implementation period will last five years during which GEF funds will have been fully disbursed. After Bank project closure, MEER will conduct appropriate monitoring of BEEF's performance as provided under the Subsidiary Grant Agreement.

Client Relationship. BEEF is designed to be a client-friendly entity. Accordingly, its internal procedures need to be streamlined in order to provide efficient services in project development and financing. The two-tier governance structure should work as smoothly as possible. The FM will be the public face of BEEF for the clients (subproject sponsors) and co-financing partners. The General Framework Agreement to be concluded between BEEF and selected financial institutions may include clauses enabling the project client to sign only one contract and having to deal only with one provider of financial services. In order to inform clients on services provided by BEEF, a coherent communication strategy will be developed and implemented within six months after the selection of the FM. As part of the strategy, a Web site for BEEF promotion will be established to provide information enabling potential clients to quickly determine whether they are eligible for BEEF's financial services. Through this medium and other more traditional means such as workshops, road shows, mass media, the potential clients and financing partners will be informed on the benefits of EE investments, eligibility criteria for projects, loan/guarantee conditions (interest rate/guarantee fee, repayment time schedule, collateral, environmental and monitoring requirements), BEEF procedures for project development support (energy audit, business plan preparation, training, etc.) and loan/guarantee approval.

Selected partners such as professional and employers associations, ESCOs and business advisory centers will be contacted and informed on BEEF services. During the initial implementation period of the project, these stakeholders and partners will be exposed, through workshops and seminars, to BEEF objectives and procedures so as to develop proposals targeted at the requirements of the Fund. The FM will also work with appropriate partners in the development of innovative financing techniques (e.g., pooling of small projects) to provide financing for less creditworthy clients. For the first projects, the Fund may cover the total cost of developing bankable proposals, thereafter however the clients will have to contribute to the development, with their share of the cost rolled into the financing arrangements.

Annex 7: Financial Management and Disbursement Arrangements

BULGARIA: ENERGY EFFICIENCY PROJECT

1. Financial management: country issues

A Country Financial Accountability Assessment (CFAA) for Bulgaria was carried out in 2003. The CFAA report concludes that Bulgaria has a well-developed system and structure of public financial management that relies heavily on information technology (such as in the area of cash management), and has independent external audits and parliamentary oversight committees. Sound legislation exists to prepare, implement and monitor the state budget. A major remaining issue, from the perspective of using government financial management systems in Bank-financed projects, is the implementation of a single unified Financial Management Information System, which is currently in progress. Given the current state of public financial management in Bulgaria, the CFAA assesses both the global fiduciary risk to the government and the overall fiduciary risk to Bank project funds as low. BEEF, implementing this project, should develop a financial management system (FMS) able to meet the requirements of both Bulgarian statutory legislation and the Bank.

2. Project financial management arrangements

Strengths and weaknesses

The strength of BEEF's FMS lies in the use of the existing system of the Ministry of Energy and Energy Resources (MEER) in the initial period (until BEEF becoming operational having in place acceptable financial management arrangements). MEER has experiences in implementing Bank trust funds, including satisfactory FMRs. The main potential weakness is that BEEF is a new organization which does not have acceptable financial management arrangements and has no prior experience with Bank projects.

Implementing entity

The project beneficiary is BEEF established in public-private partnership pursuant to the Energy Efficiency Act. BEEF is an autonomous legal entity specialized in financing EE investments in Bulgaria on a commercial basis. BEEF will be the final recipient of the GEF grant through MEER on the basis of a Subsidiary Grant Agreement and a Project Agreement with the Bank. Details of the governance structure, including appointment and compensation arrangements for BEEF staff and members of the Management Board (MB), are included in the Legal Statute.

The day-to-day activity of BEEF is administered by a professional Fund Manager (FM) appointed by the MB following a competitive selection process in compliance with Bank procurement rules. The FM consists of a small core team of technical and financial experts in EE project development plus limited technical support staff.

For an initial period (prior to BEEF's becoming operational and having in place acceptable financial management arrangements), the disbursement and financial management arrangements

of GEF funds in relation to selected parts of the TA component will be carried out by the Financial Department of MEER. Based on the results of financial management assessment, MEER has adequate financial management arrangements in place to manage the upfront expenditures in relation to the establishment of BEEF. Accordingly, it has been concluded that the interim financial management arrangements of the project are acceptable to the Bank and satisfies the Bank's minimum financial management requirements for the management of the TA component only.

Once BEEF becomes operational with adequate financial management arrangements in place, it will assume responsibility for the implementation of the TA component. Prior to any disbursement for the TA and the two other project components (partial credit guarantees and sub-loan financing), BEEF's FMS will need to be assessed as satisfactory to the Bank. A FMS satisfactory to the Bank is a condition of disbursement through BEEF.

Staffing

Currently, the Financial Department of MEER has adequate staffing capacity to manage the TA component of the project.

BEEF should appoint an experienced financial manager and financial assistant able to fulfill the accounting and reporting needs of the project. The financial manager will be trained in Bank procedures and requirements, including preparation of the Financial Monitoring Reports (FMRs).

Accounting policies and procedures

The accounting books and records of the project will be maintained on a cash basis. The Financial Department of MEER, through its management of other Bank projects, has appropriate accounting policies and procedures and internal controls, including segregation of duties, for the management of the TA component.

A set of appropriate accounting procedures and internal controls for the management of the project, including authorization and segregation of duties, are defined in BEEF's FMS Manual, which was found acceptable by the Bank. The Manual is in the Project File as part of the OM.

Internal audit

BEEF has no internal audit function and no reliance will be placed on the internal audit.

External audit arrangements

The project financial statements (including Statement of Expenditures [SOEs] and Special Accounts) will be audited each fiscal year by independent auditors acceptable to the Bank in accordance with standards on auditing and Terms of Reference (TOR) acceptable to the Bank. In addition, BEEF's financial statements will be audited each fiscal year by independent auditors acceptable to the Bank in accordance with standards and TOR agreed with BEEF and acceptable to the Bank and submitted within six months of the end of the fiscal year. The auditing standards

acceptable to the Bank are International Standards on Auditing promulgated by the International Federation of Accountants. The auditors acceptable to the Bank should be pre-qualified to audit Bank-funded operations. The TOR for the audit of the project financial statements was confirmed during negotiations. Not later than six months after grant effectiveness, BEEF shall hire independent auditors under terms satisfactory to the Bank.

The audited project financial statements and BEFF's financial statements will be provided to the Bank within six months of the end of each fiscal year and also at the closing of the project. The cost of the audit will be financed from the TA component of the GEF grant until BEEF reaches self-financing.

Reporting and monitoring

BEEF will produce all financial reports and SOEs for the Bank using the same accounting system which will serve statutory reporting purposes. Project management-oriented FMRs will be used for project monitoring and supervision. BEEF will produce a full set of semi-annual FMRs throughout the life of the Bank project. The format of the FMRs was agreed during negotiations and includes:

- Project sources and uses of funds
- Project balance sheet
- Physical progress reports
- Procurement monitoring reports

Information systems

MEER uses a project accounting system which is based on the accounting software "Business Management System" developed by the company *Tonegan*. The software was initially designed to meet the specific needs and reporting requirements of MEER, but was upgraded with additional modules. The new elements of the system allow for preparation of FMRs and disbursement reports on project Special Account (SA) and Guarantee Account (GA), which comply with the requirements of the Bank. It was agreed during negotiations that MEER will transfer its accounting software, capable of producing FMRs in the format required by the Bank, to BEEF following the appointment of the FM.

Action Plan

BEEF's FMS should be acceptable to the Bank before disbursements, under the partial credit guarantee and sub-loan financing components as well as the TA component (once its management is transferred to BEEF from MEER), can start.

Supervision Plan

During project implementation, the Bank will supervise the project's financial management arrangements in two main ways: (i) review of the semi-annual FMRs as well as the project's annual audited financial statements and the auditor's management letter; and (ii) during the

Bank's supervision missions, review of the project's financial management and disbursement arrangements to ensure compliance with Bank requirements. A Bank-accredited financial management specialist will assist in the supervision process.

3. Disbursement arrangements

GEF Funds Flows. GEF funds will flow from the Bank either via a SA on the basis of SOEs or by direct payment on the basis of direct payment withdrawal applications. BEEF will open and manage a SA in a bank acceptable to the World Bank. The authorized allocation of the initial deposit into the SA will be US$2.0 million. Supporting documentation for SOEs, including completion reports and certificates, will be retained by BEEF and made available to the Bank during project supervision. Withdrawal applications for the replenishments of the SAs will be sent to the Bank monthly or at least every three months.

During the initial period (prior to BEEF becoming operational), MEER, the initial implementing agency, shall open a SA in the National Bank of Bulgaria for the purpose of making disbursements from the TA component to fund eligible expenditures for the establishment of BEEF. The authorized allocation of the initial deposit into the SA will be US$100,000.

At the request of MEER and BEEF during negotiations, the currency of the two SAs is Euro.

Disbursement toward sub-loans (BEEF-supported investments under expenditure category 1, see Table A below) will be made against sub-loan agreements approved by BEEF's MB. It is expected that sub-borrowers will cover at least 10% of the costs of their projects. It will be BEEF's responsibility to ensure that the sub-borrowers come up with their portion of project financing. Disbursements toward the FM retainer fee [category 3(a)] will not be made on the basis of SOEs. Disbursements toward consultancy contracts [category 3(b)] will be made on the basis of SOEs, subject to a threshold of US$100,000 for firms and US$50,000 for individuals. Disbursement toward incremental operating costs (category 4) will be made against SOEs and the maximum limit each year will be 85% in the first year, 80% in the second year, 75% in the third year, 50% in the fourth year, 25% in the fifth year and zero thereafter. BEEF is expected to achieve financial self-sufficiency by 2010.

For the partial credit guarantee component (category 2), the disbursement of the entire allocation (US$4.5 million) will be executed through a single deposit into BEEF's GA to be opened in a bank acceptable to the World Bank. BEEF will manage the GA, including, *inter alia*, payments for called guarantees and recovery of amounts paid under called guarantees.

All of the withdrawal applications for the Bank, including the single deposit into the GA, shall be submitted by BEEF with signature of authorized persons.

Reallocation across expenditure categories is possible under the Bank's standard procedures when reasonable justification is provided to the Bank.

Table A: Allocation of GEF Grant Proceeds

Expenditure Category	Amount in US$ million	Financing Percentage
1. Subloans	4.00	100%
2. Partial Credit Guarantees	4.50	100%
3. Consultancy Services (a) Fund Manager (b) Other	1.33 (0.89) (0.44)	95% for foreign consultants and 85% for local consultants
4. Incremental Operating Costs	0.17	85% in year 1, 80% in year 2, 75% in year 3, 50% in year 4, 25% in year 5, and zero thereafter

Annex 8: Procurement

BULGARIA: ENERGY EFFICIENCY PROJECT

The procurement of services of the GEF-financed components will be procured in accordance with the Bank's procurement guidelines. The project components not financed by the GEF will be procured in accordance with the national procurement regulations of the co-financing institutions. The project elements, their estimated cost and procurement methods, and the overall project procurement plan are shown in the tables below. Additional procurement methods may be deemed applicable in the future as the procurement plan for the project will be subject to annual reviews by the Bank.

Procurement of goods and works (and/or supply and install packages as appropriate) under the sub-loans and partial credit guarantees (PCG) will be conducted by the final beneficiaries (sub-project sponsors). The Fund Manager (FM) will assist and supervise the final beneficiaries in the application of the appropriate procurement methods. Consultant services cannot be financed from the portion of the GEF grant allocated to sub-loans and PCGs (totaling US$8.5 million).

Contracts under Sub-loans. For contracts financed from sub-loans, the following procurement methods shall apply. International Competitive Bidding (ICB) will be required only if the estimated value of the contract exceeds US$3 million. Such contracts are expected to be rare. National Competitive Bidding (NCB) can be used if the estimated value of the contract does not exceed US$3 million. For contracts below US$1 million, procurement can be conducted according to Prudent Commercial Practices (PCP) provided these ensure a transparent process and evaluation based on pre-disclosed criteria for award of contract. The contractors and suppliers selected for award should have adequate financial and technical resources to perform the contract satisfactorily. Under PCP, the FM should ensure that procurement for contracts co-financed by BEEF is performed on the basis of at least three quotations. The first two contracts and all subsequent contracts above US$1 million will be subject to the Bank's prior review. Other contracts will be subject to ex-post review.

Contracts under PCG. Procurement of contracts in which BEEF is involved only through PCG will be conducted in accordance with PCP or the procedures of the financiers as appropriate.

Consultant Services. The procurement methods for these services are shown in Table A1. The main procurement action in this category is the selection of the FM, which will be conducted by MEER (as initial project implementing agency) on a competitive basis in accordance with the Bank's Guidelines for Selection and Employment of Consultants. This procurement is underway and selection of the FM is expected to be completed by May 2005. Several minor services may also be procured by MEER until BEEF becomes operational. Capacity of MEER is considered adequate for the procurement of initial consultant services. In the initial years, non-staff operating expenses of BEEF will be financed under the incremental operating cost category with procurement based on the annually approved budget and using competitive selection wherever possible.

Training in procurement will be conducted for BEEF staff who will be directly involved in procurement work. In addition, guidance will be provided on an ongoing basis by the Bank project team.

The Bank will review, regardless of value, Terms of Reference of all consultant services financed from the GEF grant. Expenditures under the incremental operating costs category will be reviewed annually.

Overall Procurement Risk Assessment: Average. Frequency of procurement supervision missions proposed: one every six months (includes special procurement supervision for post-review/audits).

Table A1: Consultant Selection Arrangements (optional)
(US$ million equivalent)

Consultant Services Expenditure Category	Selection Method							Total Cost
	QCBS	QBS	SFB	LCS	CQ	Other	N.B.F.	
Fund Manager	1.00 (0.89)	0 0	0 0	0 0	0 0	0 0	0 0	1.00 (0.89)
Audit	0 0	0 0	0 0	0.3 (0.26)	0 0	0 0	0 0	0.3 (0.26)
Individual Consultants	0 0	0 0	0 0	0 0	0 0	0.1 (0.09)	0 0	0.1 (0.09)
Marketing and Other Subproject Development and Project Management Services	0 0	0 0	0 0	0 0	0 0	0.1 (0.09)	0.25 0	0.35 (0.09)
Total	1.05 (0.89)	0.0 (0.0)	0.0 (0.0)	0.3 (0.26)	0.0 (0.0)	0.2 (0.18)	0.25 (0.0)	1.80 (1.33)

Table B: Thresholds for Procurement Methods and Prior Review

Expenditure Category	Contract Value Threshold (US$ million)	Procurement Method	Contracts Subject to Bank's Prior Review
1. Works and Goods financed under BEEF Sub-loans	<1.0	PCP	First five contracts regardless of size, and all >US$0.5 million
	1.0 - 3.0	NCB	All
	>3.0	ICB	All
2. Services	See Table C	QCBS, LCS, IC, CQ	All >US$0.1 million

Table C: Procurement Plan

1	2	3	4	5	6. Estimated Dates				
Description	Type	Number of slices items/sub-packages	Estimated cost (GEF financing in parentheses), US$ million	Procure-ment Method	Pre-qual/SL 1. Invitation GPN/SPN/Local 2. EOI received 3. Short list	(BD/RFP) 1. Prepara-tion	Bid RFP 1. RFP issued 2. Proposals received 3. Eval & Recom Award	Contract Signing	Contract Completion
Fund Manager	CS	1	1.050 (0.890)	QCBS	May 2004 Aug. 2004 Nov. 2004	Dec. 2004	Dec. 2004 Feb. 2005 Apr. 2005	Apr. 2005	Apr. 2010
Financial Audit	CS	1	0.300 (0.260)	LCS	Sep. 2005 Oct. 2005 Oct. 2005	Nov. 2005	Dec. 2005 Jan. 2006 Feb. 2006	Feb. 2006	Jun. 2010
Miscellaneous advisory services	CS	3	0.100 (0.090)	IC	TBD	TBD	TBD	TBD	Dec. 2008
Marketing and Other Sub-Project Development and Project Management Services	CS	2	0.350 (0.090)	CQ	TBD	TBD	TBD	TBD	Dec. 2008
Incremental Operating Costs	Misc.	According to annually approved budget	0.300 (0.170)	Other	NA	NA	NA	NA	Dec. 2008
Works and Goods financed under sub-loans[1]	CW, G, S&I	Unlimited	(Up to 8.500)	ICB for contracts > US$3m; NCB for contracts between US$1m and- US$3m; PCP for contracts < US$1m					
TOTAL			(10.000)						

Note: (1) For sub-loans, the applicable methods of procurement depend on the size of the contract, as specified in column 5. Procurement of contracts in which BEEF is involved through PCG will be conducted in accordance with PCP or the procedures of the financiers as appropriate.

CS = consultant services
CW = civil works
G = goods
SI = supply and installation
QCBS = quality and cost based selection
LCS = least cost selection
IC = individual consultants
CQ = consultants' qualifications
ICB = international competitive bidding
NCB = national competitive bidding
PCP = prudent commercial practices

Annex 9: Economic and Financial Analysis

BULGARIA: ENERGY EFFICIENCY PROJECT

The economic and financial performance of the project depends primarily on two major factors: (i) quality of BEEF's design as financial facility; and (ii) quality of the project portfolio. As long as the financial facility is well functioning and supports profitable investments, BEFF will have a high impact in terms of energy savings and associated GHG emission reductions. Leveraging large volumes of co-financing will boost the project's performance, as it will increase the volume of GHG emission reductions per dollar of seed capital provided by GEF.

1. EE Market Assessment: Indicative Initial Years Project Pipeline

In order to gauge the market potential for EE projects that can be supported by BEEF in the early years, a preliminary market assessment was carried out and an indicative project pipeline was developed based on technical and financial feasibility evaluation.[19] The pipeline includes 44 projects with a total investment cost of about US$29 million, as shown below:

Indicative Initial Years Pipeline of EE Projects

Sector	Number of Projects	Investment Cost, US$
Municipal Services	25	12,337,876
Iron and Steel Industry	6	8,247,273
Food, Drink and Tobacco Industry	4	3,280,881
Chemical Industry	2	2,742,589
District Heating	1	1,178,187
Rubber and Plastic Products	1	593,939
Mining	3	490,909
Public Transport	1	219,152
Electrical and Optical Equipment	1	143,824
Total	44	29,234,630

Type of Project	Number of Projects	Investment Cost, US$
EE in Industrial Energy Systems and Processes	11	10,870,941
EE in Street Lighting and Municipal Buildings	16	7,591,908
Fuel Switching	11	6,131,948
EE in Transport	1	2,078,739
Combined Heat and Power Generation	2	1,938,171
EE in Municipal Waste Management	3	622,923
Total	44	29,234,630

[19] The report *Financial, Economic and Environmental Assessment for Proposed Bulgarian Energy Efficiency Fund* (March 2004) is in the Project File.

Financial Characteristics of Indicative Pipeline. The initial years pipeline shows favorable financial and environmental characteristics based on high operating cost savings from the EE investments. The key summary indicators are as follows:

- Average simple payback time: 2.9 years
- Financial Internal Rate of Return: 33%
- Annual financial savings: US$10 million
- Energy savings (over projects' life, 11 years on average): 462,000 toe
- GHG emission reduction (over projects' life): 2.2 million tons of CO_2.

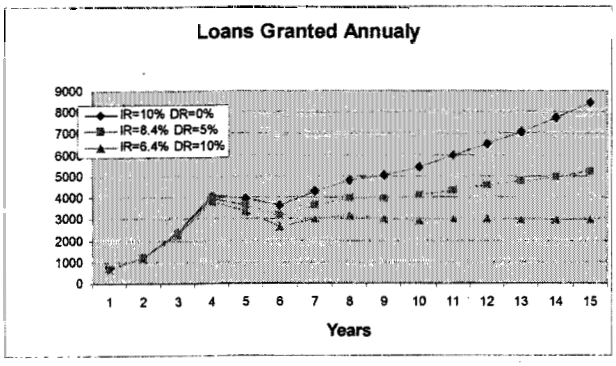
2. *BEEF: Financial Performance Modeling Results*

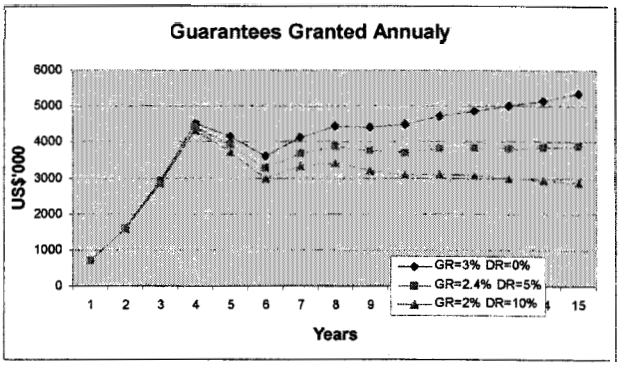
Methodology and key assumptions. To estimate the potential impact of BEEF on EE investments and the resulting GHG reduction impact, a financial model was developed. Under the base case (or reference) scenario, the following disbursement profile was assumed from the total initial capitalization for the loan and guarantee facilities of BEEF over the first five years of operation:

Year	1	2	3	4	5	**Total**
Disbursements, US$000						
Loans	700	1,000	1,800	2,700	1,300	7,500
Guarantees	700	1,200	2,100	2,900	1,400	8,300
Total	1,400	2,200	3,900	5,600	2,700	15,800

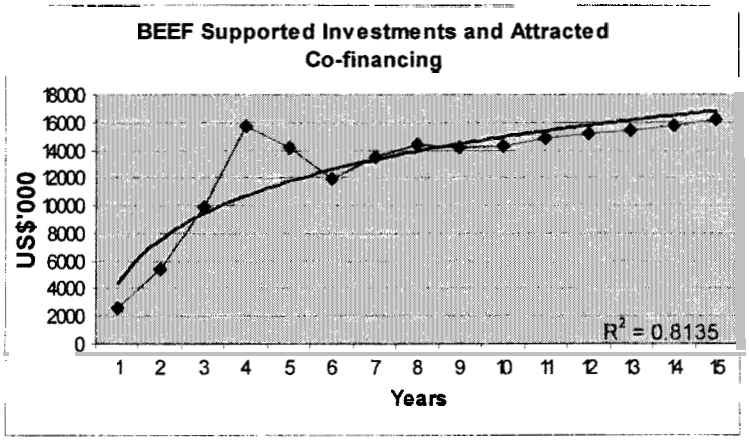
Both facilities will operate in a revolving mode, meaning that loan repayments (including interest) are reinvested into new loans and guarantees. Since the guarantee facility will cover only 50% of any commercial loan it supports, the amount of financial resources mobilized by it would be twice the amount of the guarantee. The Fund is expected to attract additional co-financing in the form of equity contributions (minimum 10% of total investment costs) from the subproject borrowers and non-guaranteed co-financing from commercial banks.

The resulting loan and guarantee as well as their combined transactions are shown below for the expected 15 years of operation of BEEF:





Note: IR = interest rate; DR = default rate; GR = guarantee fee. A 4-year maturity period is assumed both for the loans extended from the loan facility and the loans mobilized under the guarantee facility.



BEEF-Supported Investments and Attracted Financing

									US$'000
Year	1	2	3	4	5	6	7	14	15
Disburstments									
Loans	700	1,000	1,800	2,700	1,300				
Guarantees	700	1,200	2,100	2,900	1,400				
Disbursments after revolving									
Loans	700	1,222	2,352	3,961	3,647	3,134	3,622	4,971	5,223
Guarantees	700	1,610	2,878	4,415	3,928	3,278	3,679	3,844	3,880
Fund attracted investments									
Borrower contribution (loan facility)	105	183	353	594	547	470	543	746	783
Cofinancing (loan facility)	175	306	588	990	912	784	905	1,243	1,306
Commercial loans attracted by guarantee facility	1,400	3,221	5,755	8,830	7,856	6,557	7,358	7,689	7,760
Borrower contribution (guarantee facility)	210	483	863	1,325	1,178	983	1,104	1,153	1,164
Total	1,890	4,193	7,559	11,740	10,493	8,794	9,910	10,830	11,013
Total cumulative	1,890	6,083	13,642	25,382	35,875	44,668	54,579	128,060	139,074
Total BEEF invested and attracted funds	**2,590**	**5,415**	**9,911**	**15,701**	**14,140**	**11,928**	**13,532**	**15,801**	**16,236**
Total BEEF invested and attracted funds, cumulative	**2,590**	**8,005**	**17,916**	**33,617**	**47,757**	**59,685**	**73,217**	**177,364**	**193,601**

Baseline scenario, additionality and leveraging effect. The amount of financing mobilized, as shown above, is considered additional to what would take place in the absence of the project. The underlying assumption is that without the project, Bulgaria would maintain a moderate level of EE investments. Historical data suggest that EE investment of about US$13 million per year and increasing annually by about 4% is a reasonable basis for the "without project" scenario. The additionality impact of BEEF consists of mobilizing additional financial resources (including its own initial capital) for EE investments on top of the baseline level. The degree to which this catalytic financing role will be achieved is key to project success.

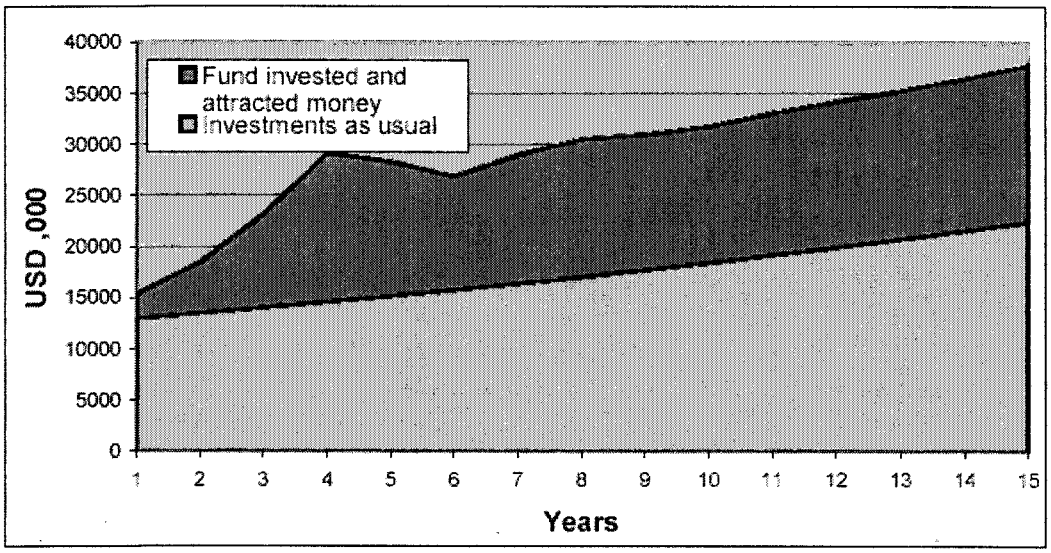
The analysis of BEEF's financial performance includes a projection for the first five years during which the GEF funds (US$10 million) will be fully disbursed. Co-financing mobilized during

this period is projected at US$39.5 million, bringing the total available financing to US$47.8 million (excluding the TA component), which yields a leveraging ratio of 4.8.

However, the leveraging impact of the GEF funds can be better evaluated over a 15-year period (BEEF's design lifetime) which includes the effect of cash reflows from its lending and guarantee operations. With the repeated revolution of the funds, the total financing mobilized is forecast to reach US$193.6 million over 15 years, corresponding to a leveraging ratio of 19. The associated unit abatement cost per ton of CO_2 works out to as low as US$0.68 per of CO_2 (assuming the full amount of the GEF grant as a proxy for the incremental costs). The GHG emission reduction over 15 years is estimated at 14.7 million tons of CO_2, which was obtained by extrapolation on the basis of the initial years pipeline. Alternative approaches to estimating the incremental cost (e.g., counting only the "permanent write-offs" such as the TA component used in non-contingent modality and permanent losses incurred by BEEF due to loan defaults and called guarantees) would yield an even lower unit abatement cost.

Additionality of BEEF in Energy Efficiency Investments

Impact of the Fund on the volume of investments in energy efficiency

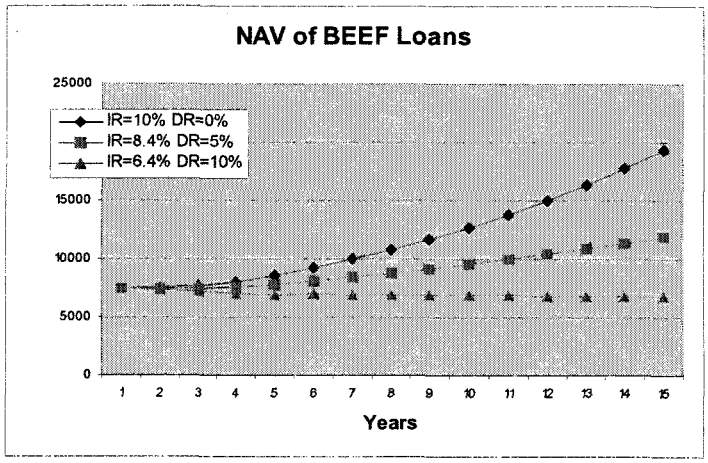


Asset value of BEEF. The initial asset value of BEEF is estimated at US$17.55 million, including US$7.50 million for the revolving loan facility, US$8.30 million for the partial credit guarantee facility and US$1.75 million for TA. The value of this asset can rise if the income from BEEF operations (comprised of interest income of the revolving loan facility, guarantee fees and interest earned on reserve funds in the guarantee facility) is greater than the costs of Fund administration and project defaults.

The model used for this analysis relies on the concept of Net Asset Value (NAV), which is a proxy measure of BEEF's profitability. NAV of the project portfolio is equal to the cash balance in the revolving fund plus the Net Present Value of all future cash flows from the portfolio investments. While the value of BEEF as an asset is not as important as its ability to mobilize overall EE financing, NAV is a useful indicator to forecast and monitor. An excessive default

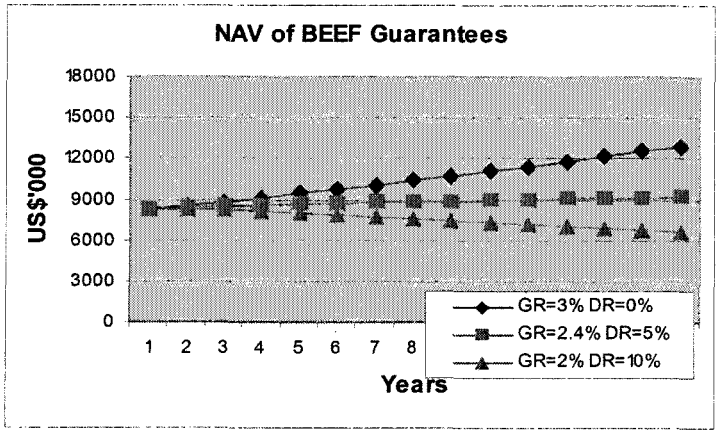
rate, for example, can reduce the asset value of BEEF even when the overall volume of operations increases.

The value of the revolving loan facility, initially capitalized at US$7.5 million, is projected to increase as shown below, depending on alternative assumptions about the interest rate charged and the rate of default on the loans extended:



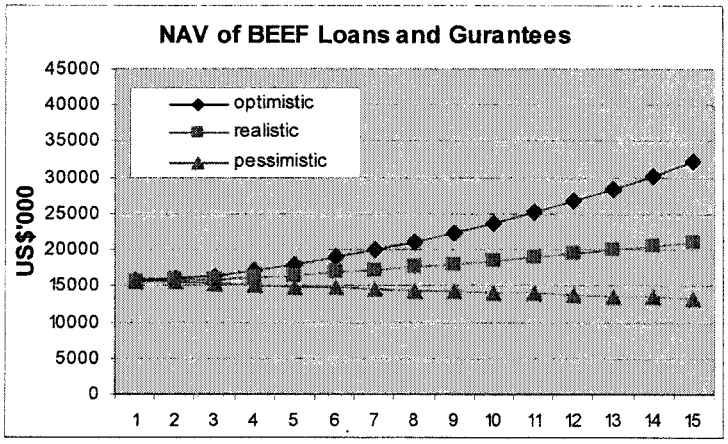
Note: IR = interest rate; DR = default rate

Similarly, the value of the guarantee facility, initially capitalized at US$8.3 million, is projected to evolve as shown below, depending on alternative assumptions about the guarantee fee charged and the rate of default on the loans guaranteed by the facility:



Note: GR = guarantee fee; DR = default rate

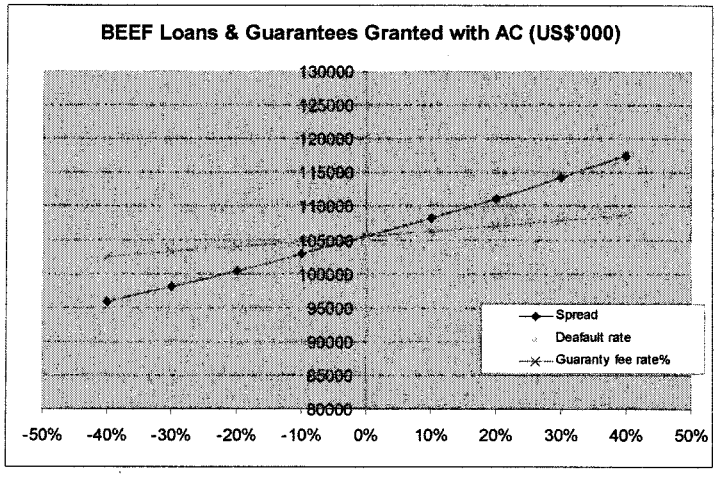
The NAV of BEEF (loan and guarantee facilities combined) is projected under three scenarios: optimistic, realistic and pessimistic. As shown in the figure below, the NAV keeps growing under the first two scenarios, but a small decline is displayed under the pessimistic scenario characterized by relatively compressed interest and guarantee fee earnings on the one hand and relatively high losses from defaults (assumed at 10%).

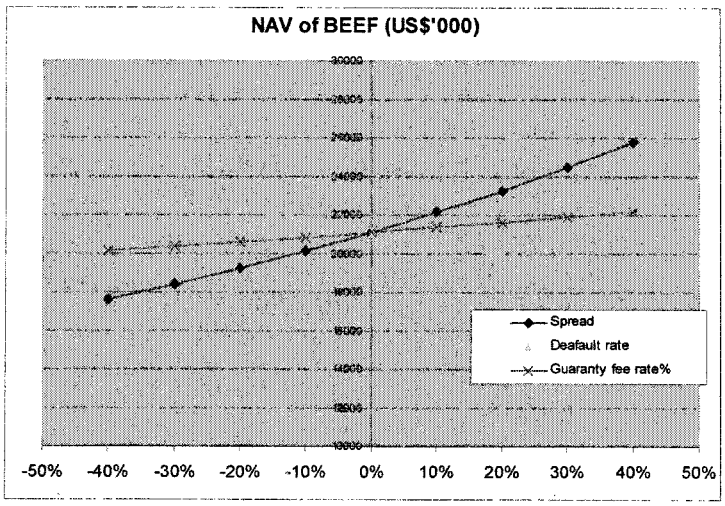


Sensitivity Analysis. In addition to the above cases, several other scenarios were run to test the robustness of Fund performance and to identify key variables which impact on the performance. The sensitivity analysis was performed for the aggregate value of Fund transactions and the NAV with respect to the following variables:

- Credit spread (interest rate margin over LIBOR)
- Default rate
- Guarantee fee
- Deal flow

These variables were tested in the range from – 40% to + 40%. The results are shown in the figures below. They show that both the cumulative volume of BEEF transactions and the NAV are relatively robust. The credit spread is the most sensitive variable, but even assuming a 40% decrease in its level relative to the reference value (as under the realistic or reference scenario), the 15-year cumulative value of BEEF transactions, at US$95 million, is six times higher the Fund's initial capitalization (US$15.8 million), standing only 10% lower than the reference value. Regarding NAV, even under a 40% decrease in the credit spread, at US$17.6 million, it is larger than the Fund's initial capitalization and only 17% smaller than the reference value.



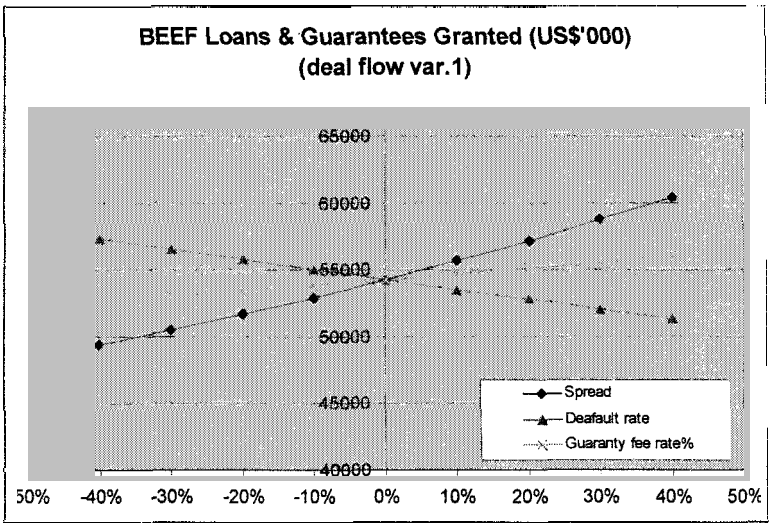


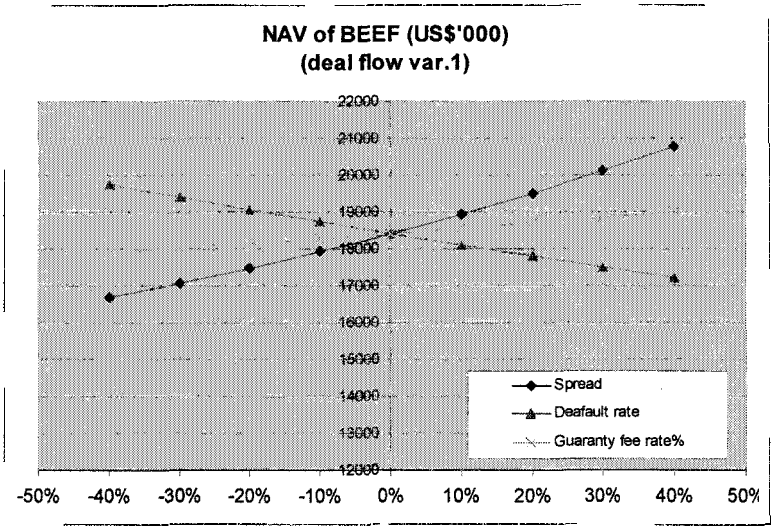
Deal Flow. One of the main risks facing the Fund is the failure to utilize the assets due to paucity of high quality bankable projects and/or insufficient attractiveness of the financing terms offered by the Fund. The Fund requires a large enough deal flow to generate sufficient revenues to cover overhead and operating costs as well as to generate sufficient momentum to ensure sustainability in the market for EE lending in Bulgaria. In order to assess the Fund's exposure to an insufficient deal flow, two risk variants were applied:

- Variant 1: Relative to the reference case, only 50% of Fund assets are used in the first 5 years and no loans or guarantees are granted afterwards.

- Variant 2: Relative to the reference case, only 50% of Fund assets are used in the first 5 years and the balance is disbursed till year 9 of operation.

The analysis (see figures below) shows that especially under Variant 1 the volume of BEEF transactions would be too small to ensure sustainability and market transformation, therefore closure of the Fund should be seriously considered. High initial deal flow considerably improves Fund performance and quickens sustainability, thus devoting sufficient TA to building a strong pipeline of finance-ready projects early on is of great importance. This is a real possibility given the demonstrated availability of a large pool of viable EE projects with short payback times. Equally important is to market intensively the Fund's financial products to targeted clients and offer help in the packaging of bankable projects.


BEEF Loans & Guarantees Granted (US$'000)
(deal flow var.1)
65000
60000
55000
50000
45000
40000
50%
-40%
-30%
-20%
-10%
0%
10%
20%
30%
40%
50%
Spread
Deafault rate
Guaranty fee rate%


NAV of BEEF (US$'000)
(deal flow var.1)
22000
21000
20000
19000
18000
17000
16000
15000
14000
13000
12000
-50%
-40%
-30%
-20%
-10%
0%
10%
20%
30%
40%
50%
Spread
Deafault rate
Guaranty fee rate%

Annex 10: Safeguard Policy Issues

BULGARIA: ENERGY EFFICIENCY PROJECT

The Bank's environmental safeguard policy is triggered by the project.

The environmental impacts of the project are related to the EE investments supported by BEEF. No significant negative environmental impacts will be caused by the project, which is specifically designed to mitigate GHG emissions through energy savings. Only those projects are eligible for BEEF support for which at least half of the financial benefits come from measurable energy savings. Environmental benefits associated with these savings will be systematically monitored and reported by BEEF. Likely subproject candidates are: street lighting improvements, installation of heat exchangers and automatic temperature control and metering in district heating systems, improved thermal insulation of buildings, replacement of network pipes, fuel switching, power factor correction, reconstruction of boilers, installation of small co-generation units, economizers, steam traps and fuel switching. Typically, the subprojects are expected to be relatively small. With investment costs generally not higher than US$1 million, none of them will have any adverse large-scale, significant and irreversible environmental impacts.

The Bank's environmental category assigned to the project is "Financial Intermediary" (FI). In an FI project, specific subprojects are identified during implementation and the responsibility for environmental due diligence of subprojects lies with the FI, in this case, BEEF.

As described in the environmental chapter of the Operations Manual (OM), compliance with Bulgarian environmental law, policies and procedures will be, in most cases, a necessary and sufficient condition for the Bank's endorsement of financing of subprojects under BEEF. In recent years, Bulgaria has made considerable progress in adapting its Environmental Impact Assessment (EIA) system to international norms. According to the European Commission's *2003 Regular Report on Bulgaria's Progress Towards Accession,* Bulgaria has attained a good degree of legislative alignment with the EU Environmental Directives, and pre-accession negotiations on Chapter 22 (environment) were closed. Provisions of the EU Directive on EIA, which have binding and mandatory power, were found compatible with those under the Bank's OP 4.01. Emissions will be within limits set by Bulgarian law.

Environmental Assessment Process. The Fund Manager will include at least one staff hired[20] to deal with the EIA and environmental management aspects of the subprojects supported by BEEF. Under the Environmental Chapter of the OM, every subproject proposal should contain a questionnaire completed by the developer/sponsor to determine the applicable course of action in accordance with the table below:

[20] As an option, a qualified environmental consultant may be hired by the FM.

Bulgarian Environmental Protection Act (EPA)	Comparable World Bank Environmental Category (under OP/BP/GP 4.01)	Action Required from BEEF Fund Manager
For subprojects: (i) listed in Annex 1 of EPA; (ii) with probable impact on areas of the National Environmental Network; and (iii) probable transboundary impacts, EIA is required.	Category A – substantial adverse environmental impact/risk	Notify the developer/sponsor that the project is not eligible for financing under BEEF.
Subprojects listed in Annex 2 of EPA for which EIA is required.	Category B – moderate and manageable adverse environmental impact/risk.	Prepare an Environmental Summary Sheet (ESS)[21] describing the steps taken to comply with the Bulgarian EIA and environmental management requirements. Present ESS to the Bank upon request.
Subprojects listed in Annex 2 of EPA for which EIA is not required.	Category C – negligible adverse environmental impact/risk.	Obtain, and present to the Bank upon request, a letter from the competent environmental authority that EIA for the subproject is not required.

As the table shows, BEEF will not finance subprojects which fall within the scope of Annex 1 of the Bulgarian EPA, which are considered comparable to the Bank's Category A projects. Further details are available in the Environmental Chapter of the OM, which was disclosed at InfoShop@worldbank.org on November 22, 2004.

There are two principal situations where exceptions may have to be made from the procedure described above. First, when the Bank's environmental staff determines the Bank's Category B is appropriate to a given subproject and disagrees with the decision of the Bulgarian environmental authorities to exempt the subproject from EIA. Unless the decision is reversed and EIA is applied, an Environmental Management Plan should be prepared as required by the Bank for Category B projects. Second, in cases where the Bank policies offer greater protection to certain resources of international significance (some types of natural habitats, cultural property, etc.), the Bank may require mitigation measures consistent the Bank's procedures.

[21] The ESS must be prepared both in Bulgarian and in English.

Annex 11: Project Preparation and Supervision

BULGARIA: ENERGY EFFICIENCY PROJECT

	Planned	Actual
PCN review	06/02/2003	06/02/2003
Initial PID to PIC	09/05/2003	09/05/2003
Initial ISDS to PIC	12/05/2003	12/05/2003
Appraisal	06/14/2004	06/14/2004
Negotiations	12/20/2004	12/20/2004
Board/RVP approval	03/22/2005	
Planned date of effectiveness	04/20/2005	
Planned date of mid-term review	10/15/2007	
Planned closing date	03/31/2010	

Key institutions responsible for preparation of the project:

Ministry of Energy and Energy Resources (MEER), the primary agency for project preparation, hosting the Project Preparation Unit

Energy Efficiency Agency (within MEER)

Ministry of Environment and Water

Project Preparation Assistance:

Consultants funded primarily under GEF Project Preparation Grant (No. TF052641) in the amount of US$300,000. MEER committed funds (cash and in-kind) for project preparation in the amount of US$50,000 equivalent.

Bank staff and consultants who worked on the project included:

Name	Title	Unit
Istvan Dobozi	Lead Energy Economist, Task Team Leader	ECSIE
Victor Loksha	Energy Economist	ECSIE
Doncho Barbalov	Operations Officer	ECSIE
Siew Chai Ting	Lead Financial Management Specialist	ECSPS
Hans Jurgen Gruss	Chief Counsel	LEGEC
Kyoichi Shimazaki	Lead Financial Officer	IEF
Nicholay Chistyakov	Sr. Disbursement Officer	LOAG1
Leonid Vanian	Sr. Procurement Specialist	ECSPS
Yukari Tsuchiya	Program Assistant	ECSIE

Bank funds expended to date on project preparation:

1. Bank resources: US$90,000
2. Trust funds: US$250,000 (GEF PDF-B, TF052641)
3. Total: US$340,000

Estimated Approval and Supervision costs:

1. Remaining costs to approval: US$25,000
2. Estimated annual supervision cost: US$70,000

Annex 12: Documents in the Project File

BULGARIA: ENERGY EFFICIENCY PROJECT

"Bulgaria: Energy Environment Review," ESMAP Report, 260/02, Washington, October 2002.

"Bulgaria: National Energy Efficiency Strategy and Action Plans," SEETEC Balkans, Southeastern Europe Electrical System Technical Support Project, August 2003.

"Bulgaria: The Challenges of Complying with EU Environmental Directives," World Bank, August 2000.

"Bulgarian Energy Efficiency Fund: Co-financing Proposal," prepared by PricewaterhouseCoopers, Sofia, September 2004.

"Bulgarian Energy Efficiency Fund: Project Pipeline Development," prepared by Electrotek Concepts, Manlius, N.Y., October 2004.

"Bulgarian Energy Efficiency Fund: Operations Manual," prepared by PricewaterhouseCoopers, Sofia, September 2004.

"Energy Efficiency Act," State Gazette, No. 18, Sofia, March 5, 2004.

"Energy Efficiency Fund Practitioners Workshop," ESMAP, Washington, April 2000.

"Energy Strategy of Bulgaria," Ministry of Energy and Energy Resources, Sofia, 2002.

"Environmental Impact Assessment Systems in Europe and Central Asia Countries," World Bank, May 2002.

"Financial, Economic and Environmental Assessment for Proposed Bulgarian Energy Efficiency Fund", prepared by the Center for Energy Efficiency EnEffect, Sofia, March 2004.

"In-depth PEERA Review of Energy Efficiency Policies and Programmes of Republic of Bulgaria," Energy Charter Secretariat, Brussels, 2002.

"National Energy Saving Action Plan", Study on the Possibility for Implementation of a Widespread Energy Saving Program in Bulgaria, SAVE II Project, 2001.

"National Strategy for the Environment and Action Plan 2000-2006," Council of Ministers, Republic of Bulgaria, Sofia, 2001.

"Regulation on the Operation Organization and the Activities of the Energy Efficiency Fund" (Legal Statute), prepared by PricewaterhouseCoopers, Sofia, September 2004.

"Regular Report on Bulgaria's Progress Towards Accession," Commission of the European Communities, Brussels (various years).

"STAP Review of the Bulgaria Energy Efficiency Project," by Daniel M. Kammen, Berkeley, California, February 23, 2004.

"Three-Year National Action Plan for Energy Saving," Ministry of Energy and Energy Resources, Sofia, 2003.

"World Bank GEF Energy Efficiency Portfolio Review and Practitioners' Handbook," World Bank Environment Department, January 2004.

Annex 13: Statement of Loans and Credits

BULGARIA:

			Original Amount in US$ Millions						Difference between expected and actual disbursements	
Project ID	FY	Purpose	IBRD	IDA	SF	GEF	Cancel.	Undisb.	Orig.	Frm. Rev'd
P081637	2004	PAL 2	150.00	0.00	0.00	0.00	0.74	26.45	16.99	0.00
P073427	2003	RARP	34.15	0.00	0.00	0.00	0.00	39.02	0.88	0.00
P069532	2003	SIEP	50.00	0.00	0.00	0.00	0.00	56.54	10.99	0.00
P008314	2003	DISTRICT HEAT	34.20	0.00	0.00	0.00	0.00	23.43	-4.24	0.00
P068858	2002	WETLAND REST (GEF)	0.00	0.00	0.00	7.50	0.00	8.11	2.31	0.00
P055021	2001	REG AND CADASTRE	30.00	0.00	0.00	0.00	0.00	33.33	8.03	0.00
P064536	2001	CHILD WELFARE REF	8.00	0.00	0.00	0.00	0.00	5.28	3.31	1.18
P055157	2000	HEALTH SECT REF	63.30	0.00	0.00	0.00	0.00	48.09	31.56	0.00
P070086	2000	TRADE & TRANS FACIL IN SE EUR	7.40	0.00	0.00	0.00	0.00	4.13	2.10	0.00
		Total:	377.05	0.00	0.00	7.50	0.74	244.38	71.93	1.18

BULGARIA
STATEMENT OF IFC's
Held and Disbursed Portfolio
In Millions of US Dollars

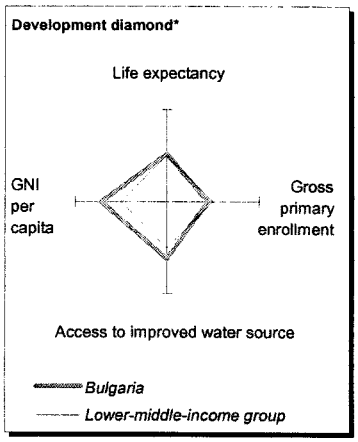
		Committed				Disbursed			
		IFC				IFC			
FY Approval	Company	Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
2002	BAC Bank	5.12	0.00	0.00	0.00	5.21	0.00	0.00	0.00
2001	Bulbank	0.00	17.47	0.00	0.00	0.00	17.47	0.00	0.00
1998	Devnya Cement	24.44	0.00	0.00	0.00	24.44	0.00	0.00	0.00
2004	Drujba A.D.	25.57	0.00	0.00	0.00	25.57	0.00	0.00	0.00
2001	EPIQ	6.88	0.00	0.00	0.00	6.88	0.00	0.00	0.00
1994	Euromerchant FND	0.00	3.86	0.00	0.00	0.00	3.86	0.00	0.00
2000	Florina	5.24	0.00	0.00	0.00	4.86	0.00	0.00	0.00
2003	Galata	14.75	0.00	0.00	0.00	14.75	0.00	0.00	0.00
2000/01	Kronospan Group	8.39	0.00	0.00	3.14	8.39	0.00	0.00	3.14
2002	PFS Restr	0.00	2.01	21.97	0.00	0.00	2.01	16.89	0.00
2001/03/04	ProCredit Bank	12.79	1.27	0.00	0.00	0.00	1.27	0.00	0.00
1997	Sofia Hilton	8.83	0.00	2.60	2.90	8.83	0.00	2.60	2.90
2004	Stomana	23.66	0.00	0.00	0.00	23.66	0.00	0.00	0.00
2004	Trakya Bulgaria	36.74	7.50	0.00	68.41	0.00	0.00	0.00	0.00
2002	Unionbank AD	5.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
	Total portfolio:	177.41	32.11	24.57	74.45	127.59	24.61	19.49	6.04

		Approvals Pending Commitment			
FY Approval	Company	Loan	Equity	Quasi	Partic.
2002	BAC Bank II	0.00	0.00	0.01	0.00
	Total pending commitment:	0.00	0.00	0.01	0.00

Annex 14: Country at a Glance

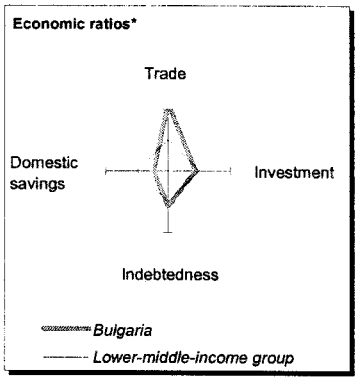
BULGARIA:

POVERTY and SOCIAL	Bulgaria	Europe & Central Asia	Lower-middle-income
2003			
Population, mid-year *(millions)*	7.8	473	2,655
GNI per capita *(Atlas method, US$)*	2,130	2,570	1,480
GNI *(Atlas method, US$ billions)*	16.6	1,217	3,934
Average annual growth, 1997-03			
Population *(%)*	-1.0	0.0	0.9
Labor force *(%)*	-0.8	0.2	1.2
Most recent estimate (latest year available, 1997-03)			
Poverty *(% of population below national poverty line)*	13	..	..
Urban population *(% of total population)*	70	63	50
Life expectancy at birth *(years)*	72	69	69
Infant mortality *(per 1,000 live births)*	14	31	32
Child malnutrition *(% of children under 5)*	..	..	11
Access to an improved water source *(% of population)*	100	91	81
Illiteracy *(% of population age 15+)*	1	3	10
Gross primary enrollment *(% of school-age population)*	99	103	112
Male	101	104	113
Female	98	102	111

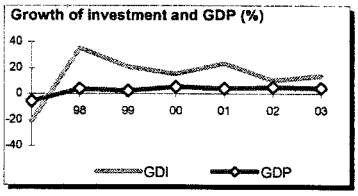


KEY ECONOMIC RATIOS and LONG-TERM TRENDS	1983	1993	2002	2003
GDP *(US$ billions)*	17.0	10.8	15.6	19.9
Gross domestic investment/GDP	32.9	15.3	19.8	21.7
Exports of goods and services/GDP	37.1	38.2	53.1	53.2
Gross domestic savings/GDP	33.1	7.7	13.2	12.0
Gross national savings/GDP	..	5.9	14.9	12.9
Current account balance/GDP	0.2	-10.1	-5.3	-8.4
Interest payments/GDP	0.6	1.7	2.0	2.0
Total debt/GDP	10.3	112.4	72.2	66.7
Total debt service/exports	3.0	6.2	13.4	11.4
Present value of debt/GDP	..	..	69.1	..
Present value of debt/exports	..	..	128.5	..

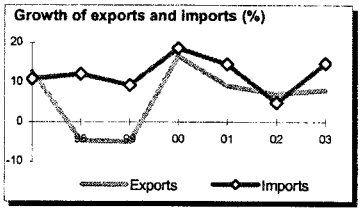
	1983-93	1993-03	2002	2003	2003-07
(average annual growth)					
GDP	-0.4	1.0	4.9	4.3	5.3
GDP per capita	0.2	1.9	5.5	4.9	8.2
Exports of goods and services	-20.7	7.3	7.0	8.0	10.2



STRUCTURE of the ECONOMY	1983	1993	2002	2003
(% of GDP)				
Agriculture	14.5	9.9	10.7	10.0
Industry	60.3	32.7	25.6	26.2
Manufacturing	..	..	15.4	16.0
Services	25.2	57.4	63.7	63.8
Private consumption	50.9	73.5	68.8	69.0
General government consumption	15.5	18.9	18.0	19.0
Imports of goods and services	36.9	45.8	59.8	63.0



	1983-93	1993-03	2002	2003
(average annual growth)				
Agriculture	-3.9	6.3	5.5	-1.3
Industry	-1.5	-0.8	4.6	7.1
Manufacturing	..	4.8	6.5	11.2
Services	0.6	-0.8	5.1	3.5
Private consumption	-0.9	1.3	3.6	6.4
General government consumption	-0.4	-0.8	4.9	7.2
Gross domestic investment[1]	-5.1	8.2	10.3	13.8
Imports of goods and services	-23.1	10.3	4.9	14.8

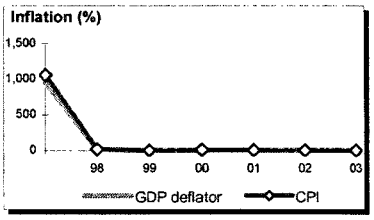


Note: 2003 data are preliminary estimates.

* 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.

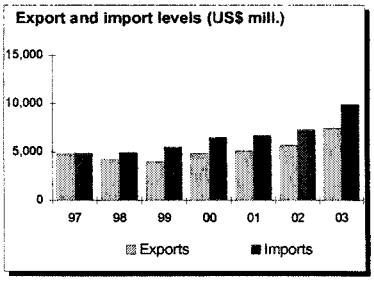
PRICES and GOVERNMENT FINANCE

	1983	1993	2002	2003
Domestic prices				
(% change)				
Consumer prices	..	72.8	5.8	2.3
Implicit GDP deflator	-0.6	51.1	3.8	2.1
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	39.4	38.4	40.2
Current budget balance	..	-9.3	2.3	2.6
Overall surplus/deficit	..	-11.3	-0.6	0.0



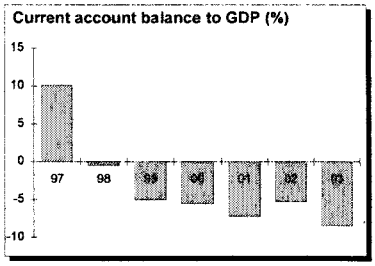
TRADE

	1983	1993	2002	2003
(US$ millions)				
Total exports (fob)	..	3,726	5,692	7,445
Consumer goods	..	..	2,002	2,725
Investment goods	..	..	753	1,018
Manufactures	..	..	..	..
Total imports (cif)	..	4,981	7,287	9,923
Food	..	..	218	237
Fuel and energy	..	..	1,451	1,745
Capital goods	..	1,333	1,823	2,546
Export price index *(1995=100)*	..	93	82	92
Import price index *(1995=100)*	..	95	76	86
Terms of trade *(1995=100)*	..	99	108	107



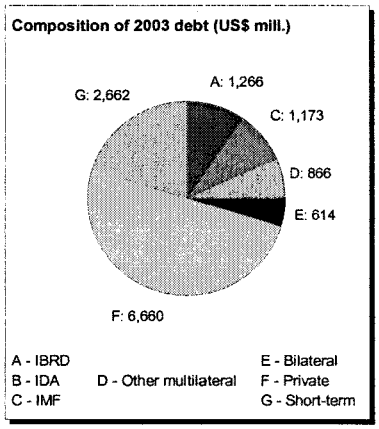
BALANCE of PAYMENTS

	1983	1993	2002	2003
(US$ millions)				
Exports of goods and services	9,885	4,898	8,057	10,609
Imports of goods and services	9,829	5,841	9,170	12,487
Resource balance	56	-943	-1,113	-1,878
Net income	-127	-192	-261	-489
Net current transfers	109	37	547	692
Current account balance	38	-1,098	-827	-1,676
Financing items (net)	164	808	1,555	2,572
Changes in net reserves	-202	290	-729	-896
Memo:				
Reserves including gold *(US$ millions)*	..	960	4,747	6,705
Conversion rate *(DEC, local/US$)*	0.002	0.0276	2.1	1.7



EXTERNAL DEBT and RESOURCE FLOWS

	1983	1993	2002	2003
(US$ millions)				
Total debt outstanding and disbursed	1,739	12,178	11,245	13,241
IBRD	..	158	958	1,266
IDA	..	0	0	0
Total debt service	300	309	1,121	1,248
IBRD	..	12	78	93
IDA	..	0	0	0
Composition of net resource flows				
Official grants	..	0	142	142
Official creditors	..	242	-129	-9
Private creditors	..	-34	483	642
Foreign direct investment	..	40	600	1,153
Portfolio equity	..	0	-23	-2
World Bank program				
Commitments	..	178	50	218
Disbursements	..	3	39	185
Principal repayments	..	0	37	50
Net flows	..	3	2	135
Interest payments	..	12	41	42
Net transfers	..	-9	-39	92



Annex 15: Incremental Cost Analysis

BULGARIA: ENERGY EFFICIENCY PROJECT

Global Benefits. The global and local benefits from the project are summarized in Table A below. The total costs of the EE investments facilitated by BEEF over its 15-year operation are estimated at US$193.6 million (see Table B for the indicative scenario). Most of these investments would likely remain unimplemented due to the barriers highlighted in the report (see section A.1.2) and the resulting large EE finance gap.[22]

Without GEF involvement, the baseline scenario includes a limited level of investment in EE financed from internal company funds, donor assistance and commercial sources. Many potentially viable investments would not materialize with the main financing and technical capacity barriers remaining in place.

To construct the baseline scenario for the incremental cost analysis, the projections from the government's National Energy Saving Action Plan (see section A.1.3) were used with some adjustments to reflect the actual record during the early period of its implementation. In the absence of the GEF project, Bulgarian businesses can be expected to make EE investments of about US$245 million over a 15-year period. This represents annual energy savings of 16.2 million GJ and avoided life-cycle GHG emissions of 20.3 million tons of CO_2 (baseline scenario). The GEF project is expected to bring an estimated net increase in EE investment of US$193.6 million over a 15-year period, resulting in an additional cumulative reduction of 14.7 million tons of CO_2.

Incremental Costs. The indicative initial years portfolio of EE projects has an estimated investment costs of US$29.2 million and a weighted average payback period of 2.9 years, with a net present value of US$37.2 million (consultant report is in the Project File).[23] Extrapolating this information to a US$193.6 million portfolio of EE projects (see Table C for details) with similar or even somewhat longer payback periods would yield a Net Present Value well in excess of US$50 million, meaning that the eventual incremental costs to Bulgaria in implementing these projects is negative. However, it is not the incremental cost to the Bulgarian entities that prevents these projects from being implemented, but the severe barriers to EE finance.

Considering the methodological complexity of a quantitative estimation of the costs of barrier removal, the practical solution applied here is to use the cost to the GEF as a proxy for the incremental costs involved. Even though the financing instruments proposed in this project fall into the category of contingent finance (revolving loan fund and a partial credit guarantee facility), the entire US$10 million GEF allocation for the project should be treated as an

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[22] During 2001-2003, EE investments amounted to only 5% of the annual EE investment requirements included in the *National Energy Saving Program to 2010*. This is a good proxy for the exceptionally large EE finance gap in Bulgaria.

[23] The indicative initial years portfolio (see Annex 7) consists of bankable project candidates for which at least preliminary technical and financial assessments have been carried out.

incremental cost. On the basis of these costs, the unit abatement cost for the GEF works out to US$0.68 per ton of CO_2.

Local Benefits. The local benefits will be specific to the circumstances of the projects. The major local benefit in most cases will be the value of fuel saved due to increased EE. In those cases where the project consists of switching to a cleaner fuel (e.g., natural gas) from a more polluting fuel (e.g., lignite), significant local environmental benefits are expected. Demand-side EE investments in the residential sector may have significant social benefits due to the mitigating impact of these measures on household energy bills at a time of sharply increasing residential energy prices and low disposable incomes.

BEEF's impact on the Bulgarian commercial banking sector is expected to be beneficial. The Fund would actively seek co-financing from the commercial banks. BEEF would operate as a last-resort financier, extending credit on terms not more favorable than those available from commercial banks. Through project development support and partial risk mitigation, BEEF would help open up a new line of business – EE finance – for a number of Bulgarian banks.

Table A: GEF Incremental Cost Matrix			
	Baseline	**Alternative**	**Increment**
Domestic Benefits	Barriers to EE projects cause high energy intensity of the economy and inefficient industrial processes, hindering economic development and industrial competitiveness.	Increased investments in EE reduces energy intensity, increases economic efficiency and improves competitiveness.	Saved energy, avoided costs and improved competitiveness of the private sector through lower production costs.
	Limited penetration of EE technology and high levels of local and regional air pollution.	Increased penetration of EE technology yields lower environmental and health costs.	Lower local and regional air pollution.
	High unemployment and weak EE project development capacity by ESCOs and FIs.	More productive jobs in the domestic service and manufacturing sectors, EE market development for ESCOs and FIs.	Lower unemployment and increased capacity to develop EE projects.
Global Benefits	Baseline level of EE investments potentially eligible for BEEF support (but in the absence thereof) reduces CO_2 emissions by 20.3 million tons over the 15-year lifetime of assets.	Expanded EE investments supported by BEEF over a 15-year period yield 35 million tons of CO_2 emission reductions over 15-year project life.	An additional 14.7 million tons of CO_2 emissions avoided through incremental EE investments.
Costs	Baseline level of EE investments potentially eligible for BEEF support (but in the absence thereof) reaches about US$245 million over a 15-year period.	Investments in EE increases to US$438.6 million over 15 years (US$245 million + US$193.6 million).	Additional EE investments of US$193.6 million result from the project at an incremental cost to GEF of US$10 million.

Table B: Capitalization of BEEF and EE Financing Mobilized, US$ Million

BEEF's initial capitalization (first five years, 2005-2009):		
		10.0
GEF:		
of which:		
Partial credit guarantees	4.5	
Sub-loans	4.0	
Technical Assistance	1.8	
Government of Bulgaria		1.8
Bilateral/multilateral donors		5.8
Subtotal: BEEF		17.6
BEEF-mobilized total EE investments (first 5 years, 2005-2009):		
Commercial loans facilitated by partial credit guarantees		27.1
Loans extended from the revolving loan facility		11.6
Additional (non-guaranteed) commercial bank loans		3.0
Subproject borrowers' equity		5.8
Total		47.5
BEEF-mobilized total EE investments (15 years, 2005-2019):		
Commercial loans facilitated by partial credit guarantees		102.0
Loans extended from revolving loan facility		54.5
Additional (non-guaranteed) commercial bank loans		13.6
Subproject borrowers' equity		23.6
Total		193.6

Note: Unit Abatement Cost:
14.70 Project life-time CO_2 savings from investments made over 15 years, mt CO_2
10.00 Cost for GEF, US$ m
0.68 Unit Abatement Cost (US$/t$CO_2$) based on incremental cost for GEF

Annex 16: STAP Roster Review

BULGARIA: ENERGY EFFICIENCY PROJECT

Note: The GEF STAP reviewer was Daniel M. Kammen, Director, Energy and Resources Group, University of California, Berkeley, California. The full review is in the Project File.

Overall project justification and recommendation.
Reviewer's General Comment: "The project is well designed, sufficiently financed and has an excellent project team." Recommendation: "This project should be funded."
1. How BEEF is expected to make a grater impact than the Government's recent National Energy Saving Action Plan (NESAP)?
Comment: In view of the poor implementation record under the Govérnment's recent National Energy Saving Action Plan, the reviewer suggests to provide a clearer documentation of how the proposed project will go beyond simple project implementation by building a true market for EE investments. *Reply: The NESAP is a collection of EE projects/programs underpinned by technical and financial feasibility assessments. However, the Plan failed to provide a suitable financing framework for project implementation. This explains why only a tiny fraction (5%) of the identified project has been implemented under the Action Plan. The proposed project addresses this systemic barrier (i.e., poor access to EE financing) by launching a commercially oriented finance facility whereby a sustainable market transformation could be achieved in the EE sector of Bulgaria. This is expected to be achieved through (i) building capacity for EE in the financial and energy services sectors; (ii) establishing and demonstrating the financial profitability of EE investments; and (iii) catalyzing through explicit business partnerships substantial commercial financing for EE projects. The project design is consistent with this objective.*
2. Support for development of national center of excellence in EE policy and implementation.
Comment: How will the project will work with and support the Energy Efficiency Agency (EEA) as the national center for excellence in EE policy making and implementation?

Reply: The Project Team is working closely with the EEA within the Ministry of Energy and Energy Resources, the project implementing agency of the GOB. However, the proposed project is not targeting the EEA per se, but is focused on the creation of the Bulgaria Energy Efficiency Fund (BEEF) as an independent legal entity under public-private partnership. A representative of the EEA will serve on BEEF's Board. It was agreed that project ideas and specific proposals developed within the EEA in the past will be made available for potential financing by BEEF. Separately, the Bank is mobilizing substantial support to upgrade the EEA to a high quality EE policy center. This support, co-financed by the Government of Canada, included the preparation of the long-term EE Action Plan and the new EE Law. A separate capacity-building with Canadian support is under preparation.
3. Size of Technical Assistance component.
Comment: Is the amount of US$1.75 million sufficient to develop the needed technical expertise and national profile in EE?
Reply: As BEEF is designed as a profit-seeking entity which over time should cover all costs associated with EE project development and implementation from its own revenues. Therefore, the size of the TA was deliberately calibrated to support capacity building (within BEEF and the commercial sector) and set-up and operating cost on a grant basis only until BEEF is not yet fully self-financing. This period is projected to last for about four years. However, should initial implementation experiences indicate a strong justification for increased TA, additional resources can be raised either by reallocation of the grant proceeds amongst expenditure categories and/or mobilizing incremental resources from the GOB or donors. This is reflected in the revised PAD, including a TA allocation of US$0.3 million from GOB's US$1.8 million BEEF contribution. The revised size of the TA is US$2.05 million..
4. Project alternatives: dedicated EE credit line.
Comment: Provide a more extensive reason for the dismissal of this financing model.
Reply: Agreed. It is to be noted that with the development of sufficient EE project evaluation and financing skill/experiences within the commercial banking sector, the relative attractiveness of the dedicated credit line may indeed improve.
5. GEF exit strategy.
Comment: Waiting to year 4 of a 5-year project is too late to develop the GEF exit strategy.
Reply: The date for the definition of the exit strategy will be agreed with GOB by negotiations. In line with the recommendation of the Quality Enhancement Review, the Project Team prefers a later date (year 4 or 5) closer to project closure. By this time, sufficient implementation experience (regarding the deal flow, availability of co-financing, payback period, etc.) should be available to design a suitable exit strategy for GEF.
6. Financial covenant.
Comment: The 10%, 25%, 50% and 100% self-financing ratios for BEEF are "somewhat arbitrary."

Reply: While an element of judgment is unavoidable when specifying these ratios, they are nevertheless essential in creating the proper financial/remuneration incentives for the Fund Manager to steer BEEF progressively away from grant financing of BEEF's operating costs toward full self-financing, in sync with BEEF's underlying principle of commercial orientation. The proposed self-financing ratios are indicative at this point and are subject to confirmation during negotiations. Also, they are implementation conditions, meaning that they can be amended if justified by actual financial results in the early years.
7. Project risk.
Comment: The potential risk that banks will not invest in the EE sector (despite the impressive IRR) is not discussed.
Reply: This is indeed a vulnerability and was explicitly included the risk management strategy table (section C.5, item 7) as a "moderate risk" factor. The proposed risk mitigation: (i) market BEEF to local financial institutions early on; and (ii) conduct periodic workshops and disseminate early project successes to encourage competitive co-financing. The Project Teams's discussions with Bulgarian banks have indicated strong interest in working with BEEF in co-financing partnership or relying on the partial guarantee as a credit enhancement facility.
8. Changes in legal framework.
Comment: The new EE Law should be discussed more extensively in relation to the project goals.
Reply: The new EE Law became effective on March 1, 2004. Key features of the Law in relation to the project goals are outlined in section A.1.3 (Government strategy) and C.2.1 (Institutional and implementation arrangements) in the PAD. Chapter Four, Section One provision of the Law is directly linked to the project goal of establishing BEEF as a sustainable vehicle to finance EE investments.
9. Required manpower for TA component.
Comment: There may not be sufficient manpower in Bulgaria to meet the needs under the TA needs of the project.
Reply: The Project Team does not consider this as a serious risk based on experiences gained on the ground. The required manpower is available in the consultancy and ESCO sectors. The Project Team has identified a substantial pool of candidates for the TA component. In case bottlenecks are encountered, international consultants will be engaged.
10. Project size eligibility.
Comment: What is the rationale for the US$100,000 to US$2,000,000 million project range? Smaller projects may be the most effective at engaging local FIs into the EE sector.

Reply: The Project Team agrees and the relevant text was amended accordingly. While very small projects (much less than US$100,000) are not excluded, BEEF and FIs may not be interested in them because of high transaction costs. This situation may require "project pooling" by a third party where projects that are individually too small are bundled to make a financially viable package (see A.1.2. of PAD).
11. Fund Manager (FM).
Comment: Is a single FM adequate for BEEF?
Reply: The FM is not a single person, but a small core team of technical and financial professionals (including an Executive Manager). More details are provided in section C.2.1 of the PAD (Governance structure of BEEF).
12. Similar projects in other ECA countries.
Comment: Is there room for exchange/interaction with projects in other ECA countries?
Reply: Lessons to be learnt from similar projects elsewhere (including Romania) have been thoroughly examined and reflected in the project design (see especially sections B.2, B.3 and Annex 2 of the PAD). In addition, it is planned to arrange an experience-sharing meeting between the staff of the Romanian FREE and the Project Preparation Unit for BEEF.
13. GHG reduction impact: Goals?
Comment: How the 0.6 to 3.6 mt CO_2 reduction figures were obtained? Are they pre-established goals?
Reply: These figures are not goals or objectives to be enforced. They are outcome indicators estimated on the basis of energy saved under the BEEF-supported EE projects. 0.6 mt CO_2 is the cumulative sub-project life GHG reduction for projects launched in the first year and 3.6 mt CO_2 is the cumulative sub-project life GHG reduction for projects supported by BEEF in the first five years (see Annex 3 of the PAD – Results Framework and Monitoring).
14. Project defaults.
Comment: The assumed default rates (0%, 5% and 10%) seem unrealistically low.

Reply: The Project Team agrees that 0% is unrealistic. This was used as an illustrative, optimistic limiting case. 5% under the base case scenario and especially 10% under the pessimistic scenario are not unrealistic in view of favorable experience elsewhere. For example, under the USAID-supported municipal EE Program in Bulgaria no default was registered so far in overall portfolio of US$9.5 million, consisting of two dozen projects. The Hungarian EE Credit Fund made nearly 500 loans in 1991-2000 and only 10 borrowers defaulted. Excellent payment performance (default rate: 2 %) is demonstrated also under the IFC/GEF Hungary EE Co-financing Program. Under the first China Energy Conservation Project, the default rate has been less than 2% of all transactions undertaken to date. The Project Team believes that the 5% default rate is reasonable for the base case, considering also that BEEF will deal with only credit-worthy borrowers and high quality finance-ready projects. However, for appraisal a low case scenario with a 20% default rate will also be tested for sensitivity.

MAP SECTION