



# Global Environment Facility

**Mohamed T. El-Ashry**  
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October 6, 2002

Dear Council Member,

The World Bank, as the Implementing Agency for the project, *Regional (Czech Republic, Slovak Republic, Estonia, Latvia, Lithuania): Commercializing Energy Efficiency Finance (CEEFF)*, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with the World Bank procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by the Council in May 2002 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by the World Bank satisfactorily details how Council's comments and those of the STAP have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at [www.gefweb.org](http://www.gefweb.org). If you do not have access to the Web, you may request the local field office of the World Bank or UNDP to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

cc: Alternate, Implementing Agencies, STAP

# OFFICE MEMORANDUM

DATE: September 25, 2002

TO: Mr. Mohamed El-Ashry, CEO/Chairman, GEF

FROM: Lars Vidaeus, GEF Executive Coordinator 

EXTENSION: 34188

SUBJECT: **Regional (Central and Eastern Europe) : Commercializing Energy Efficiency Finance (CEEF)**  
**Submission for Final CEO Endorsement**

1. Please find attached the electronic file of the Project Appraisal Document (PAD) for the above-mentioned project for your review, prior to circulation to Council and your final endorsement. This project was approved for Work Program entry at the May 2002 Council meeting, under streamlined CEO endorsement procedures. The IFC Board subsequently approved (June 2002) a parallel IFC investment in the CEEF project of between \$30 million (first tranche) and \$75 million.
2. The PAD is fully consistent with the objectives, scope, and overall cost of the proposal approved at the May 2002 Council meeting. The PAD reflects a more fully developed project implementation plan and budget (please see PAD "Introduction" for summary of PAD enhancements to the Project Brief), but no substantial modifications to the program described in the Project Brief and endorsed by Council have developed during appraisal. The PAD also reflects the operational terms and conditions for the guarantee facility as approved by IFC's Board related to the IFC co-funding of the facility. These terms and conditions however, are consistent with the Project Brief and do not represent a substantial variation from the proposed project as approved by Council in May 2002. Modifications to the PAD and how comments have been addressed in the project are detailed below.
3. In response to the comments from the Swiss Council member, IFC has responded as follows:
  - *Comment: Unless a cultural impulse is given for the development of energy efficiency strategies, the market may not develop. Various actors ranging from government institutions up to plant operators have to be trained on the subject.*

IFC Response: CEEF is not intended as a comprehensive energy efficiency program which addresses all aspects of market development. Rather, it is designed to play to IFC's comparative advantage with the objective of mobilizing commercial capital in a market-based, sustainable way. IFC agrees with the Swiss Council representative that this approach addresses only a piece of the puzzle. That is why the CEEF countries have been

selected through an extensive pre-appraisal process (see “Rationale for CEEF Approach” and “CEEF Country Conditions: Country Selection Criteria”) in which several other countries were eliminated from consideration. Specifically, the CEEF markets were judged to be able to substantially benefit from such an intervention and are those in which substantial government policies supporting energy efficiency are already in place. Those countries which IFC has chosen for the CEEF project share a combination of relatively well-developed capital markets, an energy services industry capable of developing investment projects, fundamental economics which support efficiency investments, and the willingness of *other partner* institutions to collaborate with CEEF through complementary activities which address these other important market development dimensions highlighted in the Swiss Council member’s comments. (See Annex I for country-specific reviews of the CEEF collaborations planned with local partners and other bilateral and multilaterally supported initiatives in order to form the more comprehensive approach necessary to achieve the necessary “cultural impulse.”

- *Comment: It is recommended that the project explicitly contains a strategy for building a coherent energy efficiency programme from which investment-based projects would emerge after operational optimisation is performed (or in parallel where that makes sense).*

IFC recognizes the importance of operational optimization in order to fully realize energy efficiency potential. These are basic engineering tenets represented in monitoring and verification-type performance contracting typically adopted for industrial sector performance contracting, as well as in new building design. CEEF’s approach is market-based however, and is therefore transaction-oriented. This means that CEEF supports projects which are commercially feasible and which originate from commercial businesses, rather than from the program itself. In this context, the low-cost, no-cost actions which the market is not presently fully exploiting become important for enabling larger capital investments which might have longer paybacks on their own. In such cases, a comprehensive retrofit investment can utilize these quicker payback (sometimes operational) improvements in order to leverage the longer-payback investments which might not be economical or commercially financeable if undertaken alone. In response to the recommendation of the Swiss Council member IFC will address through the Technical Assistance program (see “Technical Assistance for ESCOs and EE Businesses”) the importance of taking this comprehensive and sequential approach to designing efficiency projects in order to capture these synergies and optimize systems.

4. Please let me know if you require any additional information to complete your review of the project document .

Many thanks.

Attachments

cc: Messrs./Mmes. King, GEF PROGRAM COORDINATION (GEFSEC), Boorstin, Lu, Sturm, Sullivan, Younger (CETEM), Aryal, Battaglini, Khanna, Mathur, Sakairi, Vidaeus, Wedderburn, (ENV); ENVGC ISC, Regional Files

<b>PROJECT NUMBER:</b>	<b>506396</b>
<b>PROJECT NAME:</b>	<b>COMMERCIALIZING ENERGY EFFICIENCY FINANCE (CEEF)</b>
<b>DURATION:</b>	12 years (4 year TA program concurrent with 4 years guarantee facility obligation period + 8 years additional loan guarantee exposure)
<b>IMPLEMENTING AGENCY:</b>	World Bank
<b>EXECUTING AGENCY:</b>	International Finance Corporation (IFC)
<b>COUNTRY OR COUNTRIES :</b>	Czech Republic, Slovak Republic, Estonia, Latvia, Lithuania
<b>ELIGIBILITY:</b>	Czech Republic: FCCC Ratification: Oct. 7, 1993 Estonia: FCCC Ratification: July 27, 1994 Latvia: FCCC Ratification: Mar. 23, 1995 Lithuania: FCCC Ratification: Mar. 24, 1995 Slovak Republic: FCCC Ratification: Aug 25, 1994
<b>GEF FOCAL AREA:</b>	Climate Change
<b>GEF PROGRAMMING FRAMEWORK:</b>	Operational Program #5

**1. SUMMARY:**

This Project Document provides an updated description of the Commercializing Energy Efficiency Finance (CEEF) project, reflecting the final project design resulting from project appraisal conducted by IFC during the spring and summer 2002. The Project Document also reflects the terms and conditions of the IFC Board approval in June 2002 of a \$30-\$75 million guarantee facility commitment by IFC, as well as Board approval of IFC's role as executor of the facility and the accompanying technical assistance (TA) facility. The project execution plan, including staffing plan and budget, as well as the refined list of initial financial institutions (FIs) which will participate in the program, and the technical assistance program strategy for each country described in the Project Document have been refined based on IFC's appraisal. In addition, the credit appraisal guidelines and terms upon which the guarantee facility agreements which comprise the FI conditions of participation in the facility are defined as the basis for the facility operations.

Building on the model demonstrated in the Hungary Energy Efficiency Co-Financing Program (HEECP), IFC will provide partial guarantees to support the financing of energy efficiency (EE) projects by local commercial financial institutions (FIs), as well as by private project sponsors. GEF funds will be used in a non-grant contingent financing modality to leverage IFC and private capital investment in EE projects by as much as 10-15 times, yielding 7.4 million metric tons of avoided CO<sub>2</sub> emissions at a cost of \$.70 per metric ton. \$30-\$75 million in IFC resources will be combined with GEF funds as reserves supporting the guarantees. The CEEF program will be implemented in stages, based on the successive development of demand for the guarantees from participating FIs. As such, the \$15 million GEF contribution to the guarantee facility will be allocated by the GEF in tranches, with CEO endorsement of the final \$6 million GEF contribution triggered by IFC's successful development of demand for the guarantee adequate to justify the full disbursement of the GEF resources. Specifically, IFC will notify the CEO when FI demand for the guarantee facility exceeds \$18 million, as indicated by FI requests for GFAs in this amount, thus signaling the imminent need for the full GEF commitment to the guarantee. Similarly, \$2.25 million of program operations and technical assistance (TA) resources would be disbursed at the Project outset with the final \$.75 million to be approved by the CEO upon demonstrated demand for an expanded guarantee facility. IFC's parallel investment will also be disbursed in several tranches, (building from a two to one match of GEF funds to a five to one leveraging of IFC resources) as demand for the guarantee program expands. The Project includes a complementary TA program to develop a pipeline of finance-ready EE projects and to build the commercial capacities of EE businesses and participating FIs.

This regional Project will mobilize local financial and EE industry resources to commercialize EE finance in each selected country by engaging key parties -- FIs, EE and energy service company (ESCO) businesses and end-users -- to implement EE projects. The TA program is designed on a country-by-country basis to build on and complement existing efforts underway in each country to support EE investment capacity. Working through existing public and private sector partners, the Project will work directly with ESCOs and FIs, responding to their individual needs to structure investments, develop products, build their capacity to deliver these products, and market their EE projects and financing products.

The Project will yield sustainable capacity for EE lending and investment in the commercial finance sector by building capacity for EE sector lending within participating FIs, establishing business models and marketing mechanisms for EE finance products, establishing a competitive dynamic among multiple participating FIs in each market, and establishing the profitability of investment in the EE sector. This objective is fundamental to the project design and is the basis of the Project's sustainability.

IFC is uniquely positioned to implement this Project given its experience with HEECP and its successor HEECP2 as well as its other guarantee facilities, commercial finance expertise, network of FI relationships in the CEEF countries (including existing IFC portfolio FI investments), and its ability to leverage GEF funds with IFC's own investment funds. The CEEF approach is an appropriate match to conditions in the GEF-eligible countries selected for this project. They represent countries with well-developed technical capabilities in the EE sector, several active equity investment sources, compelling economic potential for EE investment, improving investment climates for EE (including price rationalization), and competitive capital markets with an excess of liquidity and limited experience (but growing interest) in providing project finance and debt for small and medium sized companies. These are the conditions in which a partial guarantee product of this type can be effective. The present pre-European Union accession period offers a unique window of opportunity to achieve substantial global environment benefits while establishing a sustained capacity to continue to deliver these benefits through market mechanisms. In addition, the country groupings offer substantial implementation efficiencies when addressed as a single project using IFC's regional infrastructure and leveraging IFC's substantial investment portfolio in the financial markets of these countries. IFC's HEECP implementation team in Hungary will provide guidance and support to the implementation of CEEF, thus yielding further leverage from IFC activities in the region.

**2. COSTS AND FINANCING (MILLION US\$):**

<b>GEF:</b>	- Guarantee facility	
	o First tranche	\$ 9.00
	o Second tranche	\$ 6.00
	- TA & Admin/Management	
	o First tranche	\$ 2.25
	o Second tranche	\$ 0.75
	- SUBTOTAL First Tranche	\$11.25
	- SUBTOTAL Second Tranche	\$ 6.75
	- TOTAL	\$18.00
 <b>CO-FINANCING:</b>	- IA: guarantee investment	 \$30 - \$75 (IFC investment)

- IA: guarantee investment (if only first tranche of GEF) (\$18)
- IA: legal, management of facility \$ 1.50
- IFC Trust Funds (and other bilaterals) for TA \$ 1.35

**TOTAL PROJECT COST:** \$50.10 - \$95.10 (est.)

**3. ASSOCIATED FINANCING (MN US\$)**

- FIs (debt financing for projects) \$90 - \$180
- Project equity investment by project sponsors \$22.5 – \$45.0

**4. OPERATIONAL FOCAL POINT ENDORSEMENT:**

Endorsement letters from all five countries on file with IFC

**5. IA CONTACT:**

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# Project Document: Commercial Energy Efficiency Finance

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## Definitions / Acronyms

CEEF	Commercializing EE Finance (project)
EE	EE
ESCO	energy services companies [project development companies]
EU	European Union
FIs	financial institutions
FLL	guarantee facility liability limit
GFAs	Guarantee Facility Agreements
GHGs	Greenhouse Gases
HEECP	Hungary EE Co-financing Project
IA	Indicative Amount
IFC	International Finance Corporation
SMEs	small and medium-sized enterprises
TA	technical assistance
TGLL	transaction guarantee liability limit
WB	World Bank
\$	United States Dollar

# COMMERCIALIZING ENERGY EFFICIENCY FINANCE (CEEF)

## PROJECT DOCUMENT

### INTRODUCTION TO PROJECT DOCUMENT

1. This Project Document builds on the program design presented in the CEEF Project Brief and endorsed by the GEF Council during the May 2002 GEF Council meeting. Because the program design presented in the Brief was substantially well-developed at that time, and because this Project Document must stand alone as a complete document, it includes a significant portion of the materials presented in the Brief. However, this Project Document reflects a substantially more developed Project with greater detail and clarifications resulting from the project appraisal process completed by IFC during the spring and summer 2002. It includes significant refinements of the program implementation arrangements and budget, as well as more refined country and financial institution information. The Project Document also includes guidelines which will define the business terms of the guarantee facility operations as well as the underwriting guidelines which will define the credit appraisal process for guarantee facility operations under the program. This introductory section highlights program design developments since preparation of the Brief and provides a guide to the key differences between the Project Brief and the Project Document.

2. Main activities and accomplishments in program preparation since preparation of the Project Brief are as follows.

- appraisal and approval of the parallel IFC investment in the guarantee program, which included more in depth country-by-country assessments of the CEEF markets, and of the prospective financial institution (FI) partners, technical assistance (TA) partners and TA needs;
- identification of lead FI partners in each CEEF country and preliminary work to identify financial products and develop marketing and technical assistance efforts;
- further development of program marketing plans and partnership networks in each CEEF country;
- formal decision by IFC management and Board to an IFC investment in the facility of up to \$75 million (\$30 million first tranche), and to commit necessary management resources to execute the program;
- refinement of the guarantee facility's financial structure to ensure IFC leveraging of GEF resources;
- refinement of the program budget and program management plan;
- qualifying and identifying specific sources of additional non-GEF funding for the technical assistance program (totaling between \$1.25-\$2.0 million);
- start-up planning and activities including the negotiation of guarantee facility agreements with specific FIs, selection and hiring of in-country program management and staff, and field office administrative and space arrangements;

3. These results are incorporated in this Project Document as follows.

(i) First, main developments in country-specific program designs coming out of the appraisal process are addressed in Annex I, which describes the status of the FI partners, TA partners, TA program design and initial priority EE finance products and project pipelines. The background

sections on country macro-economic, financial, energy sector and EE market background conditions have been updated since the Brief. An additional analysis of the banking and leasing sector markets in each of the CEEF countries has been added (Annex II), in response to comments IFC received on the Project Brief inquiring about the stability of the financial sector and its implications for project risk. The country assessments have been further strengthened by the addition of a focused economic analysis of the CEEF countries (included in Annex I). The FIs identified as the “lead” FI partners in each country are described in Annex IV. As described in the Document, IFC is presently engaged in negotiations with each, and has begun working with several in defining marketing efforts and TA support associated with their participation in the program.

(ii) Second, the formal decision by IFC for investment in the guarantee program is reflected throughout the Appraisal. Refinements to the guarantee facility’s financial structure for IFC leveraging of GEF resources are discussed in "Program Component I: The Partial Guarantee Program" and, for guarantee terms offered to participating FIs, in Annex VI, which describes the business terms of the guarantee facility agreements. Refinements in the operational details of both the guarantee facility and the technical assistance program are described with updated information in the sections dedicated to those operations. A discussion of the issues faced by IFC in undertaking CEEF and IFC's response to those issues in its investment decision is provided in the Document under "Issues Related to IFC Management of the Guarantee Facility." Associated with IFC's investment approval, IFC has also completed work on underwriting guidelines which will govern operations of the guarantee facility. These are presented in Annex V.

(iii) Third, program budget and program management plans have been the focus of considerable work. Details of the joint venture partnership between IFC’s investment department and the Environment Department have been agreed, and the management of and supervision team active in identifying local project teams and finalizing implementation arrangements. These topics are addressed in detail in Table VI, in Figure 1, and in the Project Document sections “Project Implementation: Management and Administration” and “Project Scheduling.” These sections also update the status of IFC's arranging additional TA funding from non-GEF sources – an effort which has been very successful.

(iv) Fourth, the Project Document provides an expanded implementation plan and budget for the Monitoring and Evaluation program to be implemented concurrent with, and supportive of, Project implementation. The M&E Plan is provided based on IFC’s experience in implementing the comprehensive multi-country monitoring and evaluation program which IFC has undertaken in support of its program management for the IFC/GEF Efficient Lighting Initiative. While the final CEEF M&E program plan can only be developed by the M&E contractor once the CEEF Project Document is endorsed by the Secretariat, the initial program plan provided herein provides the basis for the Terms of Reference to be used in engaging the contractor to refine, further develop, finalize, and implement the multi-year plan, as well as detailing the budget to be used in implementing that plan.

(v) Finally, the Project Brief provides a concise comparison of HEECP versus the refined program design developed for CEEF through the appraisal process. This comparison is presented in Annex III and provides a clear picture of how the HEECP model has evolved in this multi-country replication based on the lessons learned by IFC in its implementation of HEECP (Annex VII).

## **BACKGROUND AND CONTEXT**

4. The IFC/GEF project for Commercializing Energy Efficiency Finance (CEEF) or "Project" represents a substantial corporate commitment by IFC to a series of regional investments in the business model that was successfully demonstrated in the IFC/GEF Hungary Energy Efficiency Co-Financing Program (HEECP). As such, the Project achieves effective mainstreaming of GEF's climate change mitigation objectives within the private sector investment arm of the World Bank Group. GEF resources will allow IFC to undertake the program (see "Use of GEF Funds" below), and place substantial funds of its own in a risk position in the Project (between \$30-75 million over several tranches of IFC investment, depending upon market demand). IFC will also contribute substantial technical, legal, and managerial resources to the program's execution. Further, because \$15 million of the \$18 million of GEF resources are utilized in a non-grant, contingent financing modality, it is expected that only \$4.5 million of the total GEF funds committed to CEEF will be exhausted during Project implementation. IFC's comparative advantage in executing a contingent financing vehicle through private sector project developers and private financial institutions is demonstrated both through IFC's GEF portfolio as well as IFC's mainstream investment activities.

5. Besides the energy savings generated in the CEEF countries, and the capacity built in the financial sector and energy services industries in these countries through the execution of CEEF, the program will provide a vehicle for refining a business model to execute EE loan guarantees on a commercial basis. This exercise – including the demonstration of streamlined credit approval procedures, deal structuring in a variety of sectors, and the further refinement of streamlined administrative processes -- will be critical in ensuring future investment by IFC and other multilateral banks in financial instruments which stimulate private investment in the Energy Efficiency sector. In contrast to the IFC/GEF Renewable Energy and Energy Efficiency Fund (REEF) which is principally a private equity fund, CEEF focuses on mobilizing substantial debt financing from local commercial financial institutions to support energy efficiency transactions rather than company investments or non-recourse project finance-type transactions that require equity. As such, CEEF is complementary to REEF and other private equity funds such as the Dexia-Fondelec Energy Efficiency and Emissions Reduction Fund which is also active in the region.

### **CEEF: A Large-Scale Replication of the HEECP Model**

6. The IFC/GEF Hungary Energy Efficiency Co-Financing Program (HEECP) was launched in March 1997 by IFC's Environmental Finance Group with a total of \$5 million in GEF funding. The program was designed to overcome barriers to EE project finance and development by deploying two tools: i) a guarantee program, supporting and sharing in the credit risk of EE investments undertaken by domestic financial institutions (FIs); and (ii) a technical assistance program, to help prepare projects for investment and aid general EE market development. Following a four year pilot stage, including a slow start related to extensive work to develop the program and prevailing high interest rates in the Hungarian financial market during the program's initial years, HEECP has now developed a strong pipeline of projects – presently approving approximately five new transactions per month at an average transaction size of \$250,000. HEECP has been instrumental in establishing active competition between several Hungarian banks to develop and market EE project financing products in order to capture shares of the newly-discovered market in the financial sector. As indicated to the GEF Council in the original HEECP project brief, IFC expanded the program following the original pilot phase, extending the GEF guarantee facility with an additional IFC investment of up to \$12 million. At present, four banks have executed guarantee facility agreements

(GFAs) under the IFC/GEF facility worth \$11 million. Once fully subscribed, the facility is expected to leverage debt financing for EE projects totaling up to \$90 million. A total of \$4.25 million of GEF funds is still remaining from the original allocation, now supplemented by a \$750,000 GEF MSP which together with the IFC parallel investment constitutes HEECP2 (program to be referred to as simply “HEECP”).

7. The operational details of the HEECP program implementation represents over four years of development by IFC. The objective has been to operate a disciplined financial intermediation tool using commercial credit procedures. IFC operates in parallel a flexible and results-oriented technical assistance (TA) program which responds to and directly supports the specific needs of the individual ESCOs and FIs which actually execute the transactions supported by the facility. IFC has refined the management of the program to ensure appropriate credit oversight in part by maintaining incentives to allow the primary transaction review and credit analysis burden to be shouldered by the FIs (whose capital is lent for the projects). IFC has also developed program management processes which minimize transaction costs associated with both the FIs’ participation and IFC’s own administration of the program. The creation of credit analysis tools, legal documents, TA programs, and streamlined program administration procedures has been an invaluable output of the program. It is this "technology" which IFC seeks to leverage in the multi-country replication of the HEECP model in the CEEF project. The HEECP mid-term evaluation report independently verified the program’s accomplishments which were also featured in GEF’s Second Overall Performance Study.

8. CEEF builds on HEECP – and take the model one step further in its evolution. Influenced by IFC’s experience with “agency lines” which are often labor intensive and therefore costly to administer effectively, CEEF has been designed to be highly streamlined in its operations. Decision-making in the operations of the guarantee facility – guided by underwriting guidelines and standardized operations procedures developed by IFC management based on experience with similar operations – will largely be deferred to CEEF Project Management in the CEEF countries. This design also supports the Project objectives of building local capacity and enhancing sustainability. Annex III provides a comprehensive comparison between the designs of HEECP and CEEF. Annex VII provides an analysis of the lessons learned by IFGC in executing HEECP which served as the basis for the modification to the model initiated by IFC as reflected in this Project Document.

## **PROGRAM OBJECTIVES, BENEFITS, BARRIERS ADDRESSED, AND RATIONALE**

9. In this next-stage development of the partial loan guarantee model, which has been successfully demonstrated in Hungary, GEF funds leverage a parallel investment by IFC in the guarantee facility from the project's outset. CEEF will thus help to mainstream within IFC the programmatic objectives of the GEF for expanded mobilization of private sector capital to finance EE measures that produce global environmental benefits. In so doing, IFC will seek to mainstream the financing of EE within the private capital markets of the CEEF countries.

### **Objectives**

10. The Project's primary objective is to reduce emissions of greenhouse gases through implementation of EE projects directly supported by the guarantee and TA programs. Parallel objectives are to:

- a) promote entry of domestic FIs into the EE financing market;

- b) build greater experience and capacity of domestic FIs to provide EE project finance;
- c) provide more favorable credit conditions to borrowers;
- d) promote financial innovation in this market to establish a range of financial products responsive to the structuring requirements of several different sectors, including municipalities, cogeneration, multi-unit residential buildings, institutions (including hospitals), industrial, commercial and SMEs;
- e) build capacities of the commercial EE/ESCO industry to market, structure, and finance EE projects, and to accelerate development of the EE market generally;
- f) expand deployment of non-grant contingent finance tools for the GEF, thus achieving greater leverage of GEF funds while mainstreaming EE finance within IFC;
- g) refine and streamline administrative and management procedures developed under HEECP, including credit review and project preparation procedures used in administering the guarantee facility and TA program, in order to enable broader scale adoption of the joint IFC and GEF EE guarantee product in other regions through IFC's mainstream investment operations.

11. CEEF is designed as a market intervention, responsive to short- and medium-term market conditions existing in the five participating CEEF countries. The overarching objective of CEEF is to build sustained market capacity to develop and finance EE projects on commercial terms using local private capital. The long-term success of CEEF will be measured by the existence of a competitive market for developing and financing EE projects after the CEEF guarantee facility is no longer available to support new transactions. In that context CEEF will have fulfilled its role of introducing FIs to a relatively untapped market, and helping both ESCOs and FIs to develop their capacity to exploit that potential.

### **Benefits**

12. Benefits of CEEF will include:

- a) direct implementation of cost-effective EE projects with associated global and local environmental and economic benefits, including energy cost savings for energy users;
- b) development of capacity in the domestic financial markets of the CEEF countries to provide project-based debt financing for EE projects with SME sponsors;
- c) establishment of a sustainable and competitive market for EE project finance with multiple private FIs offering financial products to address the needs of a variety of EE sectors;
- d) development of capacity among project developers to structure "bankable" EE projects and to present them effectively to banks;
- e) mobilization of both domestic and international sources of debt and equity financing for EE projects; and
- f) mobilization of investment capital for infrastructure modernization critical for meeting EU environmental guidelines and achieving EU accession targets.

13. The program uses a market-based approach. CEEF will work in a non-exclusive manner with those FIs and project sponsors that meet CEEF guidelines for participation. By building a base of experience and technical capacity to develop and finance EE projects CEEF seeks to establish the foundation for a sustained market for EE project investment on commercial terms. The benefits which can flow from CEEF's successful implementation are substantial and will be enjoyed by direct participants in the EE projects, by the CEEF countries' economies, and by the global environment.

14. Specifically, the GEF commitment of \$18 million (\$15 million of which will be applied to the guarantee facility) is expected to leverage \$112 - 225 million in private capital investment in EE projects. This is based on a 50% guarantee of loan principle amounts provided for EE investments supported by a guarantee facility which will range in size from \$45-90 million (depending upon demand), plus an assumed average private equity contribution of 20% for each EE investment (an amount which is consistent with FI requirements for typical deal structuring in the CEEF countries). Should demand for the guarantees by FIs be substantially less than anticipated, then GEF's contribution to the guarantee facility will be limited to the first tranche commitment of \$9 million (\$11.25 million in total Project costs). Such a down-sized facility would still be expected to leverage \$67.2 million in private capital investment in EE projects.

- Assuming a loss rate of 5% on the portfolio, of the \$15 million in GEF funds placed in a first-loss position within the facility, between \$2.25 to \$4.50 million would be expected to be lost to non-performing loans over the seven year life of the project, depending upon the ultimate size of the facility. This is expected to leave between \$12.75 to \$10.50 million which will allow redeployment by IFC into other GEF Council endorsed activities at the end of the Project life.<sup>1</sup>
- GHG emissions of 7.4 million metric tons of CO<sub>2</sub> are estimated to be eliminated in addition to emissions of various local pollutants associated with energy use reductions. The cost of avoided carbon emissions is estimated as \$0.70 per metric ton of CO<sub>2</sub>. (In the event of a substantially down-sized guarantee facility associated with a GEF contribution to the facility of only \$9 million due to FI demand for guarantees inadequate to justify the full GEF commitment of \$15 million, GHG emissions of 4.2 million metric tons of CO<sub>2</sub> would be expected at a cost per metric ton of \$0.86.)

### **Barriers Addressed by CEEF**

15. CEEF is designed to address the following barriers to commercial EE finance that are common across the five CEEF countries:

- a) shortage of readily available debt financing for EE due to structuring aspects of ESCO transactions as well as lack of experience and expertise with EE finance on the part of domestic FIs;
- b) perceived high end-user credit risks, especially for SMEs, municipalities, hospitals, multi-family housing and other end-user sectors which have lacked access to financing from commercial FIs in these markets;
- c) lack of collateral value associated with EE projects/equipment;
- d) imposition by FIs of high collateral requirements which are onerous for potential borrowers ;
- e) capital market conditions -- now corrected (including historical experience with large-scale defaults resulting from previously lax credit procedures) --which cause FIs to be particularly risk adverse and overly cautious in their credit risk management practices; and

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<sup>1</sup> The 5% non-performing loan percentage represents a conservative estimate based on the experience in HEECP where the only losses in the facility to date are related to a specialized retail loss reserve product associated with a portfolio of retail consumer loans (average size \$1000), and total losses on the outstanding loans guaranteed under the facility represent less than 2% of the total loan value guaranteed.

- f) lack of well-prepared investment-ready EE projects, which are in part due to lack of project development capacities of EE/ESCO businesses, limited seed capital available to many local ESCO, relatively high project preparation costs and risks, and lack of familiarity on the part of end-users of the benefits and business aspects of EE projects.

**TABLE I: Barriers addressed by CEEF**

<b>Barrier</b>	<b>CEEF Project Response</b>
a) Lack of debt financing: experience and capacity deficit in host country financial sector.	Provision of guarantee to induce/support FI lending. TA support to FIs to develop understanding of market opportunity; facilitate introduction to ESCOs; technical support for developing credit analysis skills and financial products.
b) High perceived risk for SME borrowers and EE projects by FIs.	TA support to develop credit analysis skills for appraising EE project risk; provision of partial guarantee to mitigate actual risk to FI.
c) Lack of collateral value associated with EE projects/equipment.	Provision of partial guarantee to mitigate FI risk; TA support to FIs to develop project finance capabilities and value the positive security features of EE projects: cost savings that improves free cashflow of end-user, and essential use nature of EE equipment.
d) Excessive collateral requirements imposed by FIs.	Provision of partial guarantee to mitigate actual risk to FI.
e) Extraordinarily risk averse financial markets resulting from historical experience with poor credit procedures.	Provision of partial guarantee to mitigate actual risk to FI. Selection of priority markets, e.g., SMEs, where project finance techniques can be applied, viability of borrowers demonstrated and competition between FIs can result in new lending.
f) Lack of well-prepared projects.	Selection of markets where fundamental economics of EE projects are attractive; TA support to ESCOs to assist in project structuring and presentation to FIs.

16. These barriers combine to create a general lack of access to financing on terms that are well-matched to EE projects and business methods that are attractive to end-users. Even in the presence of several EE-focused private equity funds active in the Central and Eastern European market, the lack of available debt financing has significantly constrained the development of EE projects. In addition to these barriers, which are common across these five countries selected to participate in CEEF, there are several country-specific barriers and conditions which impede the markets in individual countries, as detailed in the Annex 1 Country Profiles. The implementation strategy for CEEF will explicitly address these barriers either through the TA program designed for those countries or through the structure employed in executing the guarantee facility.

17. Numerous studies over the last decade have identified the primary barrier to EE investment as lack of "financing". A lack of financing can have many different meanings. In the five CEEF countries, the appraisal process established that the specific finance barriers are derived from a lack of experience with project financing for SMEs in the finance sector, and a lack of financial skills on the part of project developers. (Country-specific findings and opportunities are detailed in Annex I.) Based on IFC's experience in Hungary, we saw that these conditions can effectively be addressed by the combination of:

- a flexible TA program which is responsive to the needs of *individual* FIs and ESCOs active in the market and which engages quality expertise in the structuring intensive process of preparing projects for investment, coupled with; and
- a guarantee product, paid for by the FIs, which provides the credit enhancement needed to induce a few commercial lenders to develop and market new EE project finance products.

18. Fundamentally, this approach is sustainable. It is also a logical response to existing market conditions and a natural extension of the market interventions and capacity building work undertaken in these markets to date. Further, the overriding government policy objective of EU accession is a market driver – enhanced by short timelines for energy price rationalization and tightened environmental standards – which provides a unique window of opportunity to apply the guarantee approach for maximal impact and lasting results.

### **Rationale for CEEF Approach**

19. The Project rationale is to balance the complementary tools of the guarantee mechanism and a multi-faceted TA program focused on preparing projects for investment and building capacities of FIs and EE/ESCO businesses. Capital market and EE market conditions which are suitable and make a good application for these tools are present in the CEEF countries. They include:

- a) liquidity in local currency the capital markets, including for medium-to-long term financing;
- b) existence of credit risk barriers as a limiting factor in mobilizing these local financial resources;
- c) macro-economic conditions that are otherwise reasonably attractive for adequate borrowing and investment, i.e., interest rates to end-borrowers maximum in the mid- to high-teens, and reasonable positive outlooks for inflation and economic growth outlooks;
- d) a capable FI sector (including both commercial banks and non-bank FIs) interested in the EE market;
- e) strong economics and technical potential for EE;
- f) an existing base of EE/ ESCO businesses that can market and deliver EE projects and can respond effectively to technical assistance to structure and prepare projects for investment; and,
- g) policy and institutional support for EE (including prior market preparation activities as mentioned above) and for business investment generally.

This combination of conditions is found in each of the CEEF countries.

20. Through CEEF, IFC will transfer its experience with the partial guarantee mechanism, successfully demonstrated on a commercial basis in Hungary through HEECP, to other countries. The Project will achieve mainstreaming of EE finance within IFC by using GEF funds in parallel with IFC investment funds invested through IFC's investment departments. It will also expand the GEF's knowledge base regarding the appropriate application of various credit enhancement schemes in a variety of market profiles. As a regional multi-country program, CEEF would enable efficient knowledge transfer across countries, greater and more rapid mainstreaming of EE investment within IFC and the financial industry, and an expanded portfolio of non-grant contingent finance operations for the GEF.

## **CEEF Country Conditions: Country Selection Criteria**

21. A number of other GEF-eligible countries were evaluated for participation in this program but were deemed to be unsuitable based on current economic conditions. The country selection process was informed partly by IFC's experience in attempting to develop a similar contingent finance facility under difficult conditions in Albania and Macedonia. IFC's experience there has reinforced the selection criteria developed for identifying appropriate markets for contingent finance instruments. In addition, the countries of Egypt, Brazil, and Mexico, originally conceived as part of CEEF at the time of pipeline entry, have been removed from the Project. IFC has determined that it would be difficult to realize implementation efficiencies associated with the implementation of CEEF in multiple regions with such a global program approach. As a result, IFC has focused on a single region in executing CEEF.

22. IFC will consider deploying a similar financing instrument, with GEF support as appropriate, in other countries and regions in future. The country selection process for CEEF was driven primarily by IFC's assessment of a number of key criteria related to market readiness for this type of financial instrument. A partial guarantee executed through private commercial banks and leasing companies is effective only under certain circumstances. Such guarantees will not address issues of extremely high interest rates which can constrain project economics. Nor can they catalyze bank lending where inadequate liquidity is an issue or an absence of competition in the financial sector enables banks to be content with a narrow focus on investing in low-risk government securities or financing blue-chip corporate customers. On the other hand, the guarantee instrument can be very effective where there exists an excess of liquidity in the capital markets, coupled with substantial competition in the sector, thus leading FIs to seek new markets and who therefore are motivated to develop new financial products to exploit these markets. Where there is some market driver – such as rapidly increasing energy prices, environmental laws mandating energy-using infrastructure investment, or an active network of experienced project developers such as ESCOs who are developing projects—then a specific country market represents fertile ground. In such countries CEEF is an appropriate intervention which provides an effective and strategically implemented complementary TA program to generate substantial investment entirely financed through private sector investment.

23. The CEEF countries, including the Czech Republic, Estonia, Latvia, Lithuania, and the Slovak Republic exhibit conditions that make them ripe for the guarantee instrument to be established under CEEF. As near-term EU accession countries (within the Czech Republic and Estonia slated for the first wave accession), they face aggressive schedules for energy price rationalization and environmental emissions regulation which will effectively drive the market. The present period provides a critical but brief window of opportunity to catalyze a substantial deepening of the capacity of the capital markets to support EE finance in each of these countries. Specifically, competitive conditions and excess liquidity in the markets provide conditions which will enable the CEEF TA program to build capacity in the market, and establish project financing-oriented lending for small and medium-sized enterprises (SMEs), while CEEF also provides the guarantees to enable the FIs to build an initial portfolio of EE projects in the long-neglected SME sector. Capital markets in each CEEF country are at a stage of development where the competitive dynamics encourage the development of new market niches using new financial products, but where – absent a guarantee product and an aggressive and focused TA program – it is unlikely that any substantial lending for EE projects could be expected to result. While a variety of important national, EU, bilateral, EBRD,

and World Bank initiatives in the CEEF countries have produced important demonstrations of EE, as well as establishing local capacity to design EE investments, while creating a policy environment which supports EE investment (see Annexes I and II for country-specific information), CEEF represents a critical step for catalyzing a sustainable market for EE investment which builds upon the work that has been done to date. The potential local development benefits and global environmental benefits associated with the large-scale development of private sector investment in EE projects in this region, which is characterized by extraordinarily inefficient energy-using infrastructure (See TABLE II: Energy-Intensities of CEEF Countries), would thus remain largely unrealized or be delayed in their implementation in the absence of this intervention.

**TABLE II: Energy-Intensities of CEEF Countries**

<b>COUNTRY</b>	<b>ENERGY CONSMPTN (quadrillion (10<sup>15</sup>) Btu)</b>	<b>GDP (US\$ bio)</b>	<b>ENERGY INTENSITY</b>	<b>POPULATION (million)</b>	<b>CONSUMPTION /POP</b>
<b>Czech Republic</b>	1.5	53.1	<b>0.028</b>	10.3	0.146
<b>Estonia</b>	0.1	5.1	<b>0.019</b>	1.37	0.073
<b>Latvia</b>	0.16	6.6	<b>0.024</b>	2.44	0.066
<b>Lithuania</b>	0.32	11.2	<b>0.028</b>	3.7	0.086
<b>Slovak Republic</b>	0.7	19.7	<b>0.035</b>	5.4	0.130
<b>Average</b>			<b>0.027</b>		0.100
<b>EU Average</b>	62.7	8207.7	<b>0.008</b>	378.7	0.166

24. Annex I provides a detailed overview of the country market conditions in each of the CEEF countries. These form the basis of each country's selection for CEEF and the program design elements governing CEEF in each country. A brief synopsis of the country conditions which justify each country's participation in CEEF follows:

- **Czech Republic**

The Czech Republic has a combination of financial and energy efficiency market conditions which represent a good application for the guarantee product coupled with a TA program. Financial markets are characterized by relatively low interest rates, plentiful liquidity available in Czech Kroner for medium and long term financing, continued highly risk averse lending practices in light of the recent severe non-performing loan problems, but a rapidly improving and competitive financial sector with tight margins and many banks moving down market and seeking new products. In these conditions, the guarantee can be instrumental in mobilizing local financial resources for EE investments; appetite for the guarantee program is strong, as evidenced in interviews with key staff of prospective FI partners. EE project economics are sufficiently attractive to motivate investment. Energy prices remain slightly below full cost recovery levels and cross-subsidization between ratepayer classes still exists and future price increases are expected to be an EE market driver. A

substantial base of EE companies are operating in CR, a number as ESCOs. Several successful government and international programs promoting EE market have been operating, including, most notably, programs of the Czech Energy Agency. These activities have built core capabilities in the market and a pipeline of projects in preparation. With an effective TA program, and local financing mobilized by the guarantee, a good opportunity exists to build on and significantly augment the base of current EE project investment activities.

- **Slovak Republic**

CEEF's partial guarantee approach could substantially stimulate lending for EE projects in Slovakia. Financial institutions appear ready to explore opportunities in the EE sector and to begin lending to SMEs. In this context, the program could reduce both their risks and transaction costs for developing new financial products and marketing to a new customer sector. The Project will assist Slovakia to meet the higher EE requirements of upcoming EU accession and is synergistic with other Government policies. Slovakia enjoys stable macro-economic conditions and reasonably low interest rates; generally good conditions for investment. A substantial TA effort under CEEF could bring great benefit given the support needs of the relatively undeveloped ESCO sector in Slovakia.

- **Estonia**

Conditions in Estonia combine several key factors needed for a successful guarantee program: (i) a well-developed, competitive, aggressively managed financial sector; (ii) reasonably low interest rates and available liquidity in both local and international currencies; (iii) credit origination practices requiring, by regulation, collateral of 150% of loan principal being a principal barrier to many finance transactions; (iv) stable and positive macro-economic conditions; and, (v) strong technical and economic EE potential and a market driven to improve energy efficiency as a core part of the EU accession process. FIs have expressed strong interest in the guarantee program particularly as a means to meet collateral requirements and make more transactions possible. Government policy and the interests of end-users in several sectors -- housing, public buildings and industry -- are aligned to pursue EE projects. The EE/ESCO industry is young in Estonia but many local and international firms are active offering capacities in engineering, equipment supply, project installation and servicing. Technical assistance is needed for both FIs and EE/ESCO companies.

- **Latvia**

FIs have responded aggressively to IFC inquiries about the guarantee product. Bolstered by a strong housing renovation market potential, coupled with several government and international EE initiatives preparing the market for EE projects, the FIs see a large opportunity for EE lending. With EU accession targets driving reform efforts in the financial services and energy sectors, CEEF would enter the market at an opportune time. The existence of regulations mandating over-collateralization of bank loans makes a flexibly structured guarantee facility a potentially high-impact vehicle for encouraging lending for EE projects. IFC and the World Bank see substantial opportunities for collaboration on World Bank initiatives for housing sector finance market development and privatization.

- **Lithuania**

A highly competitive commercial banking sector, growing activity of the international and local SME ESCO players, rising energy prices and the EU accession process are important factors driving the EE market and creating suitable conditions for the guarantee program in Lithuania. Four commercial banks and leasing companies expressed strong interest in participating in an energy efficiency guarantee program; all have EE project pipelines with two to four projects each, and all have experience in EE lending. Banks are eager to implement new financial products in order to penetrate into new markets; the EE guarantee product can be a very attractive vehicle for FIs to do so. Lithuania enjoys stable macro-economic conditions and reasonably low interest rates. Technical assistance is required for building EE risk assessment capacity at the FI level and for project preparation at the ESCO level.

### **Implementation Efficiencies of the CEEF Country Selection**

25. CEEF country selection also reflects the necessary management commitment of IFC's Europe Capital Markets Department to undertake and manage a parallel IFC investment. There are substantial efficiencies to be gained by implementing CEEF across five countries as a single project. In addition, the relatively small size of these markets on an individual basis makes the aggregation of the countries an important structural element in order to create a viable IFC investment. These efficiencies take several forms:

- Administrative efficiencies gained through geographic proximity, integrated transport and communication infrastructures, and integrated financial markets (with major FI players operating in multiple countries in a coordinated fashion) within the two groupings of CEEF countries: (i) the Czech and Slovak Republics, and (ii) the three Baltic countries. These two groups lend themselves to a consolidated administrative structure for administering and managing the Project. (See Program Management and Administration section for further details).
- Credit review procedures can be standardized, with deal structures, hurdle rates, financial analysis ratios, appraisal criteria, and review processes all benefiting from the ability to apply a single template to projects developed in the participating countries. We anticipate that minor modifications to each of these might be made based on local country market conditions or legal requirements, but that standardized procedures will in general be adopted. (See Annex V for the credit procedures developed for two key market sectors in the CEEF markets).
- Relationships with FIs and the negotiation process for completing the guarantee facility agreements which define the IFC-FI relationships will be managed at a corporate level as several FIs operate in multiple countries. While IFC's country program managers will develop close working relationships with local FI representatives in each country in developing and processing individual transactions, as well as in tailoring and delivering customized TA support, IFC will utilize its corporate-level relationships with the primary banks in these countries – each of which have operations in several of the CEEF countries,

and most of which IFC already has relationships with based on previous investments. (See ANNEX I: Country-Specific Profile summaries).

- Lessons learned and "software" developed in HEECP will be transferred to CEEF country operations. Due to their fundamental similarities to the Hungarian market and the presence of affiliated ESCOs and other companies that are also active in Hungary, the CEEF countries provide an ideal environment for the replication of HEECP within the region. A Project initiation workshop for the CEEF Regional teams will be held in Budapest at the outset of the Project to launch the HEECP – CEEF structured learning effort.
- TA contractors may be used in more than one country, allowing experience gained by these contractors to be applied efficiently in other countries. Finally, CEEF will build on the market development activities established through the IFC/GEF Efficient Lighting Initiative (ELI) whose work on developing the market for efficient lighting technology and services, and its financial transaction support activities provides a natural bridge to CEEF's expanded EE financing. The ELI project teams in the Czech Republic, Hungary and Latvia have directly supported the CEEF project development process and are expected to be a source of deal flow under the guarantee facilities, as they have been for HEECP.

### **Use of GEF Funds**

26. The Project will use GEF funds in three ways: (i) as reserves supporting the guarantee mechanisms, (ii) for co-funding the TA program, and (iii) for Project administrative expenses in-country. IFC resources will leverage GEF funds for each purpose. GEF funds used as guarantee reserves will be combined with IFC funds for each country guarantee facility. The initial ratio of IFC to GEF funds is 2:1 (for the \$45 million facility, as well as the \$27 million facility supported by GEF's first tranche contribution); this ratio may increase up to 5:1 depending upon demand for the guarantee product in the CEEF countries and the performance of the loan portfolios under the facility in the first. The GEF role is essential to leverage IFC's investment in the guarantee facility as well as to support the market development activities in each of the target countries:

- for such a project to be successful, it needs a substantial TA activity to prepare investment projects in a newly emerging market;
- careful stewardship of the facility and marketing of the guarantee product requires a standing Project team to actively manage the facility and cultivate relationships with FI and ESCO partners;
- these operational costs cannot be supported by fees on guarantees; and
- there is inadequate performance data on EE loan guarantees in the CEEF countries to enable IFC to comfortably assess the risk of offering this product and provide pricing for the guarantee product which the market would be willing to pay.

27. IFC will also leverage GEF funds for the TA program with IFC Trust Fund support, as IFC has done successfully with HEECP; the availability of GEF funds has been essential in obtaining additional IFC Trust Fund support. Present indications of support from IFC's Trust Funds range from \$1.2 million to \$2.0 million. Finally, GEF funds will support part of the administrative, management, and oversight functions of the Project, with co-financing provided by the participating IFC investment department as part of the Project's mainstreaming objective. In addition to

leveraging IFC resources, the Project will also mobilize and leverage domestic financial resources both from participating FIs (typically representing 80% of project costs) and from EE project sponsors and end-users (whose equity contributions typically amount to an average of 20% of project costs). (See discussion in the next section).

28. Of the \$18 million of GEF funds requested, \$3 million (17%) will be used to support direct program operating costs, including: monitoring and evaluation, administration, and technical assistance. These costs are leveraged by IFC and Trust Fund contributions to the Project of equal or greater amounts. The remaining \$15 million (83%) will be deployed in a non-grant contingent financing modality and placed in a risk position as security in the guarantee facility. By replacing these GEF funds in a first-loss position relative to IFC's exposure (but in parity with the participating FIs), and by applying the GEF guarantee to losses as they occur across the program (without country restrictions), CEEF leverage a larger IFC commitment and enable support for larger transaction (see Table III). Despite its placement in a first-loss position, a substantial portion of the GEF funds are expected to be preserved over the course of the program. Using the experience of HEECP as a point of reference, but assuming the possibility of substantially higher losses in the CEEF countries on a conservative basis, IFC's reasonable case estimate of losses is 5% on the total loan portfolio. With the GEF funds in a first-loss position in the facility leveraged by IFC money, the GEF funds might be expected to cover from \$2.25 to \$4.50 million in losses under the facility. This would result in unused GEF funds at the end of the program after twelve years of between \$12.75 to \$10.50 million. Annex IX provides a projected funds disbursement schedule based on these assumptions. The projections are uncertain, because of the impossibility of projecting timing and amounts of claims made by participating FIs for guarantee payments related to bad loans which have not yet been made. With regard to the administrative costs of the program, these disbursements are made through real-time withdrawals from the project trust fund as expenses are incurred by Project staff. Therefore they track project implementation activities, and are projected in Annex IX.

29. It should be noted that absent the GEF support, IFC would not have considered undertaking such a program. IFC works regularly with FIs but does not typically engage in "directed credit" operations such as this or make partial guarantee programs available to FIs on a *pari passu* basis. The GEF co-financing makes possible the use of this new financial product by IFC which is specifically tailored to the EE finance market. The basis of the Project structure which enabled IFC's investment of up to \$75 million was therefore: (i) GEF support for a field-based operations team to deliver TA and administer the guarantee, and (ii) the combined use of GEF and IFC funds. Specifically, as stated in the IFC Board Decision Paper:

"3.4 Within the guarantee structure, in a similar fashion to the structure adopted for the HEECP2 program, GEF's resources would be in a first loss position with respect to IFC's guarantee liability. Therefore GEF resources would have to be fully exhausted before IFC would have to pay any guarantee claims under the Program. This translates into a critical default rate of 33% with the initial IFC investment of US\$30 million, which will be reduced to 16.7% if and once IFC's contribution to the guarantee facility increases to US\$75 million. In other words, if the default rate of 16.7% would be reached on the portfolio of supported transactions (assuming no recoveries), IFC would have to satisfy all the subsequent guarantee claims made under the Program. GEF is fully aware of its proposed first loss position vis-à-vis IFC's guarantee and has indicated to IFC that it supports this structure as an appropriate use of GEF resources."<sup>2</sup>

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<sup>2</sup> IFC Board of Directors Investment Decision Report, June 20, 2002.

## **Leveraging GEF Funding with IFC Resources in the Guarantee Facility**

30. GEF funds will be combined with IFC resources to create the guarantee reserves needed for IFC to take on guarantee liabilities. IFC resources will be combined with GEF funding on a ratio of between 2:1 to 5:1, providing important leverage for GEF funding. The 2:1 ratio will be used initially in conjunction with the first stage of IFC's investment. Additional IFC resources will be provided in subsequent tranches as demand for the guarantee product builds, and subject to analysis of the portfolio performance to date regarding loss/default rates. Within the guarantee program structure, GEF funds will be placed in a first loss position with respect to IFC's guarantee liability. That is, GEF resources will be used first to satisfy any guarantee claims. The lower risk for the IFC funds means that IFC can provide two to five times the funds contributed by GEF, thus further leveraging GEF monies. However, experience from the IFC/GEF guarantee program in Hungary, where total losses are less than 1.5% of total guarantee liabilities, suggests that the risk of the guarantee funds being called is relatively low. IFC notes that all losses in HEECP have occurred in the retail guarantee program which utilizes a loss-reserve structure supported by both GEF and commercial bank resources in equal amounts and which targets smaller (average \$1000) loans made to residential homeowners.

31 In the financial structuring of the guarantee program, an important risk management parameter is the maximum single transaction guarantee liability limit (TGLL). The maximum TGLL must be set so that the guarantee portfolio is properly diversified and that risk is not overly concentrated in any single transaction. IFC's approach to setting the maximum TGLL is to do so in ratio to the available GEF reserves, which sit in a first loss position vis-a-vis the IFC investment. A reasonable ratio in this regard is 12.5%, that is, the maximum single transaction guarantee is set at 12.5% of the available GEF reserves. Importantly, GEF guarantee reserves will be pooled across the regional program, allowing the maximum TGLL to be much larger than it would be if the program's GEF reserves were fractured with specific reserves defined and limited for use country-by-country. Thus, IFC has set the maximum TGLL for this program at \$1.875 million. Pooling the GEF guarantee reserves across the regional program allows IFC to both manage risks and support larger transactions with the guarantee, resulting in increased volume of transactions that serve all program objectives: commercial, economic and environmental. At a 50% guarantee percentage, the \$1.875 million will support loans up to \$3.75 million. This value is judged sufficiently large to assure that the guarantee program can meet the financing needs of the EE market for larger thermal, cogeneration, industrial process and district heating system upgrade projects.

## **Leveraging Analysis**

32. Given the guarantee program structure, and a midrange estimate of a 3:1 ratio of IFC to GEF funding for the guarantee, GEF can support financing projects valued at up to 20 times the amount of GEF funding. This leverage is achieved at several stages in the chain of financial intermediation. This leveraging is illustrated in the Table III below. The fundamental financial leveraging of the guarantees is not effected by a potential downsizing of the guarantee facility. However, the operational efficiencies of the program would be reduced, as the cost of GHG emissions avoided by the Project would be increased as a result of a smaller guarantee facility (see Table IV).

**Table III: Illustration of Guarantee Structure & Leveraging of GEF Funds: Single Country Example**

1	GEF Funds for Guarantee Reserves	\$3,000,000	\$3,000,000	\$3,000,000	
2	Ratio of IFC to concessional Co-Finance	2.00	3.00	5.00	to be determined by demand and IFC risk analysis
3	IFC Guarantee Reserves	\$6,000,000	\$9,000,000	\$15,000,000	
4	Total Guarantee Reserves	\$9,000,000	\$12,000,000	\$18,000,000	max. of all Guarantee Facility Liability Limits
5	Average Guarantee Percentage	50.00%	50.00%	50.00%	
6	Max. Loans before Leveraging at FI level	\$18,000,000	\$24,000,000	\$36,000,000	=line 4 div. by line 5
9	Average ratio of Debt in Project Financings	80.00%	80.00%	80.00%	
10	Maximum EE Project Financing Supported**	\$22,500,000	\$30,000,000	\$45,000,000	
11	Max. single loan size for risk diversification	\$3,750,000	\$3,750,000	\$3,750,000	
12	Ratio, GEF funds to Total Project Financings	7.50	10.00	15.00	
**NOTE: Additional leveraging may be gained at the FI level by allowing the sum of outstanding TGLs to exceed the FLL by up to 2:1. This provision is included in the standard IFC GFA, but, to be conservative, and because the willingness of FIs to use this provision is uncertain, this level of leveraging is not included in this analysis.					

33. Further leverage is potentially achieved at an additional rate of 2 to 1 through the "gearing mechanism" applied in the individual GFAs signed with participating FIs. With this mechanism, FIs are allowed to enter into Transaction Guarantees such that the sum of the transaction guarantee liability limits (TGLs) may be up to two times greater than the facility liability limits (FLL), even though IFC would never pay out claims greater than the FLL. This feature allows the FI to gain coverage for more transactions and allows IFC to obtain greater leverage to support more EE finance transactions with GEF funds. This gearing ratio is only expected to be a factor if an FI's demand for the guarantee exceeds their FLL, and the FI concludes that the value of the guarantee coverage is greater than the guarantee price.

### **Project Alternatives and Reason for Selection of This Approach**

34. The commercial EE finance guarantee approach adopted by IFC represents the highest-leverage opportunity available at this stage of the market development in the five selected CEEF countries. As was the case in Hungary, each of the CEEF countries has been the recipient of a variety of EU and bilateral-funded EE sector support. These grant-funded activities have been successful in establishing a functional level of technical capacity in each market to identify, design, and implement EE projects. Several of these programs remain active and will be integrated into CEEF's country strategies to stimulate deal flow. At the same time, liberalization of the capital markets has resulted in the gradual development of competitive banking and leasing markets ripe for a "deepening" of the industry's capacity to deliver more sophisticated financing products and thus

expand access to finance for investment projects. These include financial products developed to reach into the SME sector and extend financing on a project finance basis. With adequate or excess liquidity available in these capital markets, the opportunity to leverage private capital is timely. In this context, direct grants for EE projects, EE interest rate subsidy lending schemes, and more basic technical education programs are comparatively less cost-effective and appropriate. With a focus on both maximizing the impact of a market intervention activity and ensuring its sustainability, IFC views it as essential to undertake an activity which will enable existing market players to respond to market conditions and establish a sustainable capacity to build competitive markets for EE project development. This outcome is what CEEF seeks: the establishment of a vibrant lending market for EE projects, one which is seeded under the protective umbrella of the CEEF guarantee facility but not dependent on such an intervention in the longer term.

### **IFC's Comparative Advantage**

35. IFC is perhaps uniquely positioned to deliver the Project in the selected CEEF countries. As the private sector affiliate of the World Bank Group with a focus on private sector investments which facilitate sustainable development, support of a GEF co-financed EE guarantee facility and its successful delivery is aligned with IFC's core business. IFC's capabilities and breadth of experience support this focus. IFC's credit review procedures and experience providing credit enhancement products to FIs will enable successful administration of the guarantee facility operations. IFC's extensive investments and relationships in the FI sector of the CEEF countries provides a platform from which the program's marketing activities will be launched. The substantial interest displayed for the Project by FIs demonstrates the value of these relationships and illustrates the credibility IFC enjoys in the CEEF country capital markets. IFC will leverage this position on behalf of GEF in building the broad constituency of private sector participants in CEEF necessary to ensure sustainable market impact.

36. IFC's experience in the development and delivery of HEECP is directly relevant to CEEF. The procedures, TA program designs, documentation, guidelines, and legal documents which underpin HEECP will provide CEEF with an effective jumping-off point. By undertaking a regional program supported by program "software" developed for HEECP under similar conditions within the same region, as well as the program management expertise developed in implementing HEECP, IFC hopes to diminish the often steep learning curve that is typical in program initiation.

37. Finally, IFC's capacity and willingness to invest alongside GEF provides multiple advantages. From a financial leveraging standpoint, the Project's impacts are multiplied in direct proportion to the IFC investment – ranging from some three to six times the amount of private capital that the GEF money alone would generate through the guarantee instrument. From a project management standpoint, the mainstreaming of the GEF objectives together with a parallel IFC investment brings IFC's substantial investment management expertise to bear. Specifically, with IFC funds at risk alongside the GEF resources, the risk management resources brought to bear by IFC in managing its own exposure will similarly protect the GEF investment through adoption of IFC's credit and appraisal standards and procedures in the Project's preparation and administration. The project appraisal process was undertaken both as a GEF appraisal and as an IFC investment appraisal, including due diligence on the participating FIs and a full-scale risk assessment process. IFC's investment process has now been completed, including appraisal of the first tier FIs indicated in Annex IV with whom IFC is now working to complete agreement on GFAs.

## **Global Environmental Objectives and Benefits**

38. The overall objective of CEEF is to build an active and sustainable EE financing capacity in the commercial finance sector of the five selected CEEF countries. The direct result intended from this activity is to accelerate private sector investment in EE projects, thereby reducing the energy intensity in the participating countries' economies, and reducing emissions of greenhouse gases (GHGs) associated with the combustion of fuel oil, natural gas, coal and other thermal energy resources. Because the majority of GEF funds deployed in the Project are utilized as a non-grant contingent finance modality, with only private sector capital (driven by economically attractive conditions present in each of the CEEF countries) used for direct investment in the EE projects, the ratio of potential global environmental benefits of the project to the requested GEF funding is substantial. In addition to the direct global environmental benefits accruing directly from the loans which the guarantee facility will support over the life of the project, there will be additional indirect benefits resulting from the Project, including: (i) projects financed by FIs without the use of the guarantees as a result of CEEF's TA support to the project developers or the FIs, and (ii) projects developed and financed after the Project's conclusion by ESCOs and FIs who participated in CEEF and developed capacity through their participation in the Project.

39. Based on an estimate of the direct benefits from projects financed under the guarantee facility, CEEF is expected to generate GHG reductions of 3.4 to 9.9 million (7.4 million in most likely case) metric tons of CO<sub>2</sub> equivalent at an average cost of \$.70 per metric ton (see Table IV.). In addition to the global environmental benefits, CEEF will generate a host of local health and environmental benefits, most notably a reduction of particulates, SO<sub>x</sub>, and NO<sub>x</sub> emissions to the atmosphere of the CEEF countries that are presently associated with current levels of combustion of fuel oil, natural gas, coal and other fossil fuels.

**Table IV: Projected Level of Cost-Effectiveness of Energy Savings and their Associated Avoided GHG Emissions**

[Assumption: full disbursement of GEF contribution and full first stage commitment of IFC guarantee facility contribution yields a \$45 million facility (GEF funds \$15 million, IFC funds \$30 million). Table IV does not reflect ultimate CEEF goal of obligating a full guarantee facility of \$90 million, which would double CO<sub>2</sub> savings.]

Cost-Effectiveness Estimates	CEEF GEF Program Budget (000s)	Potential Avoided GWh (Most Likely Case) (1)	Estimated (Most Likely) Avoided CO <sub>2</sub> (million tons) (2)	Best case: Cost CO <sub>2</sub> Avoided (\$/tons) (3)	Most likely case: Cost CO <sub>2</sub> Avoided (\$/tons) (4)
Czech Republic	\$3,830	1,954	1.8	\$0.3	\$0.65
Slovakia	\$3,220	1,563	1.1	\$0.4	\$0.8
Latvia	\$3,400	1,758	1.4	\$0.3	\$0.7
Lithuania	\$3,400	1,758	1.3	\$0.3	\$0.7
Estonia	\$3,400	1,758	1.7	\$0.2	\$0.6
<b>Total CEEF</b>	<b>\$18,000</b>	<b>8,791</b>	<b>7.4</b>	<b>\$0.30</b>	<b>\$0.70</b>
[Note: If only 1 <sup>st</sup> tranche GEF contribution is realized, then:] (Note 5.)	<i>\$11,250</i>	<i>5,275</i>	<i>4.2</i>	<i>\$.40</i>	<i>\$0.86</i>

**Notes to Table IV:**

1. Assumes most likely case in which 75% of potential savings from a \$45 million facility are realized. Assumes only direct CEEF benefits as explained in Annex IV: Incremental Costs. Includes both electricity savings and the fuel savings (kWh equivalent).
2. Most likely case in which 75% of potential savings are realized (with a \$45 million facility). CO<sub>2</sub> emissions coefficients are assumed as weighted average of participating countries and range from 900 (diesel, gasoline) kilograms to 1100 grams (coal). In some cases, these coefficients are expected to increase over the next five years due to growth in electricity demand being met by mainly thermal generation capacity. Factors that mitigate against this will include increases in the operating efficiencies of existing plants and decreases in transmission losses.
3. To estimate CEEF's program costs per ton of avoided GHG, we determined electricity and fuel savings generated by various CEEF-supported loans by determining likely loan project portfolios by sector and energy type, as well as assessing the electricity generating infrastructure in each participating country. Assumes best case of CO<sub>2</sub> avoided scenario (see Annex IV) in which achieved energy savings are 100% of the potential savings and no GEF guarantee funds are called.
4. Assumes a most likely cost of CO<sub>2</sub> avoided scenario in which achieved energy savings are 75% of the potential savings associated with a \$45 million guarantee facility, and that 15% of GEF guarantee funds are called. (associated with a projected 5% non performing loan portfolio).
5. These estimates are to illustrate a scenario in which demand for the guarantees is well below projected levels, thus resulting in a GEF contribution of just \$9 million for the facility (GEF tranche 1). While the leverage of the GEF funds is greatly reduced under such a scenario, CEEF would still yield cost-effective GHG reductions.

## **Project Activities/Components and Budget**

40. During the Project appraisal (completed by IFC during the spring and summer of 2002), IFC defined the country-specific approaches to be adopted for the technical assistance program, negotiated conditions and sizing of guarantee facility agreements (GFAs) with the lead FIs in each CEEF country, and began developing specific financial products to be offered by participating FIs under the facility. These program elements will continue to be further refined throughout the program life as conditions warrant. Specifically, the TA program will be executed in a pragmatic manner to respond to the needs of ESCOs to generate bankable deals, and the needs of the FIs to overcome barriers to offering and aggressively administering specialized financial products responsive to market (and institutional) needs. Further, IFC is following a strategy of focusing early stage guarantee facility operations through two lead banks in each country (see Annex IV), with the intention of engaging more FIs in an expanded facility one to two years into the program life, once the market opportunity is demonstrated.

41. The \$18 million of GEF resources contribute to a total program budget which will range from \$50.1 million to \$95.1 million, depending upon the ultimate size of IFC's investment. Specifically, the IFC investment will be tranching, with increasing levels of investment depending upon (i) the actual FI demand for the guarantees, as executed through GFAs, and (ii) the portfolio performance. In June 2002 IFC's Board approved IFC-exposure of up to \$75 million in the guarantee facility, with a first tranche exposure of \$30 million. Most of the GEF funding (\$15 million out of \$18 million) will be used in a non-grant contingent financing modality, most of which is expected to be conserved over the course of the program and will thus be available for re-deployment at the conclusion of the program.<sup>3</sup> Up to \$2 million of the GEF funding will be deployed for program administration and management to help operate CEEF program offices, which will be responsible for the TA and guarantee facility operations in each of the CEEF countries. These functions are described in the Program Management and Administration section below. The program management and administration functions, including legal documentation, administration of the donor-funded TA operations, supervision of CEEF program field offices, as well as the credit review functions provided by the IFC investment department, and other Project support activities provided by IFC, will be provided by IFC without tapping GEF resources, at a cost to IFC and participating FIs of approximately \$1.5 million. The remaining \$1 million in GEF funds will leverage matching contributions expected to total \$1.25 - \$2.0 million from US and European bi-lateral agencies, which will be administered by IFC in support of the TA programs and Monitoring and Evaluation operations. IFC has received preliminary approval of Trust Fund support totaling \$1.5 million to date.

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<sup>3</sup> Following the program's conclusion, IFC will either re-deploy the remaining funds to other possible Council-approved GEF operations under IFC's management or return the funds to the GEF Trust Fund as agreed with the GEF Secretariat.

**Table V: Use of GEF Funds: Allocations by Country**

COUNTRY	Guar. Facility GEF Contrib.	Tech Assist. & M&E	Program Admin & Mgt	TOTAL GEF Funding
[Source of \$]	[GEF \$]	[GEF]	[GEF]	[GEF]
(footnote)	1	2	3	
<b>Czech Republic</b>	\$3.33	\$0.25	\$0.40	<b>\$3.98</b>
<b>Slovakia</b>	\$2.67	\$0.30	\$0.40	<b>\$3.37</b>
<b>Latvia</b>	\$3.00	\$0.15	\$0.40	<b>\$3.55</b>
<b>Lithuania</b>	\$3.00	\$0.15	\$0.40	<b>\$3.55</b>
<b>Estonia</b>	\$3.00	\$0.15	\$0.40	<b>\$3.55</b>
<b>Total</b>	<b>\$15.00</b>	<b>\$1.00</b>	<b>\$2.00</b>	<b>\$18.00</b>
<b>[Note: If only 1<sup>st</sup> tranche GEF is realized, then:]</b>	<b>\$9.00</b>	<b>\$0.75</b>	<b>\$1.50</b>	<b>\$11.25</b>

**Table V: Notes by column**

1. The GEF contribution to the guarantee facility will be blended with the IFC contributions. Initially, the ratio will be 2 (IFC) to 1(GEF) up to a \$45 million facility. Then – once sufficient demand has been established in the market and the loss rate is determined to be acceptable to IFC for an extended exposure – IFC would commit additional resources to the facility, carrying the ratio of contribution as high as 5 (IFC) to 1 (GEF). From the FI perspective, the GEF and IFC funds would be indistinguishable. In terms of funds management, the GEF funds would be placed in a first loss position relative to the IFC funds in the guarantee facility wherever the losses might occur.
2. These funds are matched by contributions to the TA program mobilized by IFC through cooperation with various bilateral donors. These funds could also support engineering analyses used to measure GHG impacts of projects financed through the facility and will support M & E.
3. Substantial efficiencies realized through the integration of a regional program will enable the maintenance of active program management engagement at the country level.

42. The individual country allocations of GEF resources for TA are based on opportunities to leverage existing TA support activities, the availability of appropriate and useful IFC Trust Fund-generated direct support, and the scale of TA support expected to be needed to utilize the guarantee facility in each country. The individual country allocations for the guarantee facility are based on the demand indicated during appraisal by FIs and ESCOs operating in each CEEF country, including an assessment of the project pipelines identified by potential Project participants and the size of the EE market potential. There is flexibility built into the budget allocations during Project implementation in two ways: (i) if deal flow is inadequate to utilize the facility, then more of the resources will be allocated to TA in order to further prime the deal pump; (ii) the guarantee facility can be substantially increased for each country – up to five times the size of the GEF country contribution to the facility – by obligating more and more of the full IFC commitment to the facility until FI demand for guarantees is satisfied. IFC has received Council endorsement of CEEF based on a first tranche Council commitment of \$11.25 million – including partial funding of \$9 million of the total potential \$15 million GEF contribution to the guarantee facility and \$2.25 million for program operations, (including TA and M&E). The Council has delegated to the CEO the authority to allocate the second tranche of \$6.75 million – including the remaining \$6 million GEF contribution to the guarantee facility and an additional \$0.75 million for program operations – on the basis of IFC’s representation that sufficient demand exists from FIs for (at least \$18 million in) guarantee facility agreements to require the second tranche of GEF guarantee resources. This reduces the risk to GEF of over-committing resources before sufficient demand for the guarantees is demonstrated by FIs. This two step approach to full funding of the GEF contribution is operationally efficient as well as fiscally conservative.

43. Table VI. presents a breakdown of budget allocations for program operations and TA by country. This working budget is based on the program administration structure and TA program developed during appraisal. It is an operating budget which does not disaggregate the allocation of time spent by the program implementation team on TA, even though this function will represent approximately 40% of their time. As a result, it overstates the actual operational costs of the program and understates the percentage of GEF funds used for TA, which will also be directly supported by IFC Trust Fund contributions ranging between \$1.2 and \$2.0 million. Additional country-specific data – including the market analyses which served as the basis of country selection, facility size, and TA program plans -- are presented in more detail in Annexes I and II.

**Table VI: CEEF COUNTRY OPERATIONS BUDGET --**  
**Assumes 4 Years of Operations/Tranches 1 and 2**

REGION COUNTRY	<u>Baltics</u>	<u>Czech-Slovak</u>					<u>PROGRAM</u>	
	<u>Latvia</u>	<u>Lithuania</u>	<u>Estonia</u>	<u>Czech Repub.</u>	<u>Slovakia</u>	<u>TOTAL</u>		
<b>COUNTRY OPERATIONS</b>								
No. of Staff (1)	5	3	1	1	4	1	3	9
Staff Costs(3)(4)	\$ 619,943	\$ 385,275	\$ 119,085	\$ 115,583	\$ 714,510	\$ 266,190	\$ 448,320	\$ 1,334,453
Rent, related	\$ 160,000	\$ 80,000	\$ 40,000	\$ 40,000	\$ 120,000	\$ 40,000	\$ 80,000	\$ 280,000
IT, Telecomm.	\$ 75,000	\$ 40,200	\$ 17,400	\$ 17,400	\$ 57,600	\$ 17,400	\$ 40,200	\$ 132,600
Travel	\$ 144,000	\$ 80,000	\$ 32,000	\$ 32,000	\$ 124,000	\$ 32,000	\$ 92,000	\$ 268,000
Misc.	\$ 60,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 40,000	\$ 20,000	\$ 20,000	\$ 100,000
<b>Subtotal Operations</b>	\$ 1,058,943	\$ 605,475	\$ 228,485	\$ 224,983	\$ 1,056,110	\$ 375,590	\$ 680,520	\$ 2,115,053
GEF Contributions	\$ 1,058,943	\$ 605,475	\$ 228,485	\$ 224,983	\$ 1,056,110	\$ 375,590	\$ 680,520	\$ 2,115,053
<b>TECHNICAL ASSISTANCE (2)</b>								
Monitoring/Evaluation	\$ 240,000	\$ 80,000	\$ 80,000	\$ 80,000	\$ 160,000	\$ 80,000	\$ 80,000	\$ 400,000
TA-FI programs	\$ 450,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 350,000	\$ 150,000	\$ 200,000	\$ 800,000
TA-ESCO programs	\$ 450,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 350,000	\$ 150,000	\$ 200,000	\$ 800,000
TA-Support to Oper. Staff	\$ 210,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 140,000	\$ 70,000	\$ 70,000	\$ 350,000
<b>Subtotal TA/M&amp;E</b>	\$ 1,350,000	\$ 450,000	\$ 450,000	\$ 450,000	\$ 1,000,000	\$ 450,000	\$ 550,000	\$ 2,350,000
<b>GEF Contributions:</b>								\$ 884,947
<b>IFC Trust Funds Contributions:</b>								\$ 1,465,053
<b>TOTAL TA-M&amp;E-OPERATIONS:</b>								
	\$ 2,408,943	\$ 1,055,475	\$ 678,485	\$ 674,983	\$ 2,056,110	\$ 825,590	\$ 1,230,520	\$ 4,465,053
<b>Total GEF Contributions:</b>								\$ 3,000,000
<b>Total IFC/Trust Fund Contributions:</b>								\$ 1,465,053
<b>Additional IFC Operational Cost Contributions (Program Mgt., Legal, Admin)(5)</b>								\$ 1,500,000

**NOTE:** (1) Includes Program Staff Time spent on both TA and Operations

**NOTE:** (2) Does not include IFC Program Staff Time spent on TA

**NOTE:** (3) Assumes annual multipliers on 1st year base salaries of 1.1, 1.22, 1.35 in years 2-4

**NOTE:** (4) Staff costs are function of direct salaries times 1.5 multiplier for benefits

**NOTE:** (5) These costs, not detailed in spreadsheet, reflect IFC operations expenses associated with implementing facility over 12 years.

Table VII provides a breakdown of the guarantee facility allocation by country. The allocations of GEF resources to each country facility are notional and serve as the basis for IFC's total resource commitment to the multi-country facility. However, functionally, the GEF guarantee resources will be provided as a first loss guarantee wherever the losses might occur (ie, not on a per rata basis per country). Therefore, if the first \$15 million in facility-obligated losses occur in a single country, then the GEF resources would be used to cover those losses (regardless of which country it is where the losses occur). In such a case all subsequent facility-obligated losses would be the responsibility of IFC, to be covered by IFC resources.

**Table VII: Guarantee Facility Budget Allocations and Leverage by Country**

[All figures in US\$ Millions]

COUNTRY	Total Initial Facility Size (full GEF contribution)	Total Potential Facility Size	Guar. Facility GEF Contrib.	Guar. Facility (full GEF/\$30 million IFC)	Guar. Facility Max. IFC Contrib.	Total EE Investment (full GEF/\$30 million IFC)	Total EE Investment Full Potential Facility Size
[Source of \$]	[GEF and IFC]	[GEF and IFC]	[GEF]	[GEF]	[interest Earnings] [GEF \$]		
[footnote]			1	2	2	3	3
<b>Czech Republic</b>	\$ 10.00	\$20.00	\$3.33	\$6.67	\$16.67	<b>\$ 25.00</b>	<b>\$ 50.00</b>
<b>Slovakia</b>	\$ 8.00	\$16.00	\$2.67	\$5.33	\$13.33	<b>\$ 20.00</b>	<b>\$ 40.00</b>
<b>Latvia</b>	\$ 9.00	\$18.00	\$3.00	\$6.00	\$15.00	<b>\$ 22.50</b>	<b>\$ 45.00</b>
<b>Lithuania</b>	\$ 9.00	\$18.00	\$3.00	\$6.00	\$15.00	<b>\$ 22.50</b>	<b>\$ 45.00</b>
<b>Estonia</b>	\$ 9.00	\$18.00	\$3.00	\$6.00	\$15.00	<b>\$ 22.50</b>	<b>\$ 45.00</b>
<b>Total</b>	<b>\$45.00</b>	<b>\$90.00</b>	<b>\$15.00</b>	<b>\$30.00</b>	<b>\$75.00</b>	<b>\$ 112.50</b>	<b>\$ 225.00</b>
<b>[Note: If only 1<sup>st</sup> tranche GEF is realized, then:] (see footnote 4)</b>	<b>\$27.00</b>	<b>\$54.00</b>	<b>\$9.00</b>	<b>\$18.00</b>	<b>\$45.00</b>	<b>\$67.50</b>	<b>\$135.00</b>

**Table VI: Notes by column**

1. The GEF contribution to the guarantee facility will be blended with the IFC contributions. The ratio will be 2 (IFC) to 1(GEF) during the first stage of IFC investment (up to \$30 million). This covers both tranches of GEF investment, including the initial \$9 million, as well as the subsequent \$6 million GEF investment to the facility. Then – once sufficient demand has been established in the market and the loss rate is determined to be acceptable to IFC for an extended exposure – IFC would contribute its subsequent investments, carrying the ratio of contribution as high as 5 (IFC) to 1 (GEF). From the FI perspective, the GEF and IFC funds would be indistinguishable. In terms of funds management, the GEF funds would be placed in a first loss position relative to the IFC funds in the guarantee facility.

2. IFC's investment in the facilities has been approved by the IFC Board contingent upon the availability of GEF funds for CEEF. The IFC contribution will be disbursed in multiple tranches: Tranche 1 upon signing the first GFA in each country; subsequent tranches will be triggered by demand for additional guarantee resources on a country-by-country basis and the completion of a satisfactory assessment by IFC management of the performance of the loan portfolio under the facility during the Project's life to that point. The IFC fund tranching is separate and distinct from the tranching of GEF funds.

3. The value of estimated EE investments is based on a 50% guarantee on the project debt, plus an assumed 20% project equity investment made by project sponsors.

4. These estimates of a partial GEF disbursement scenario are for illustration purposes only. A partial disbursement of the full \$15 million GEF contribution to the facility (i.e., tranche I only) would yield approximately 60% of the projected benefits of the full CEEF program at the same level of fixed costs, thus reducing the leverage of GEF resources substantially.

## **PROGRAM COMPONENT I: THE PARTIAL GUARANTEE PROGRAM**

### **Description of the Guarantee Mechanism**

44. The Project will provide guarantees to local private financial institutions (FIs) to share in the credit risk of EE loans/leases which the partner FIs fund with their own resources. Participating FIs can be commercial banks, bank-owned leasing companies and qualified non-bank financial institutions. The FIs' borrowers or lessees must be private sector entities, although they can be private ESCOs providing services to public sector clients.

45. Participating FIs will execute a "Guarantee Facility Agreement" with IFC under which IFC will partially guarantee the FI's credit risk on qualified EE transactions. Individual transactions will be approved using a "Transaction Guarantee Agreement" that incorporates all the details of the specific transaction under the GFA.

46. Eligible transactions are investments in projects and equipment aimed at improving efficiency of energy use in buildings, industrial processes, municipal facilities and other energy end-use applications, for example, lighting, boiler and cogeneration systems, energy management control systems, efficient and variable speed drive motors, power factor correction, waste heat recovery, etc. Investments must be for new projects, not refinancing existing projects, and for projects using proven technology which are developed with competent energy audit/feasibility studies and include energy savings monitoring plans. The FI's borrower or lessee must be a private sector entity, consistent with IFC's private sector investment mandate. Financing for projects with public and governmental sector end-users can be supported with loans to EE service companies, contractors or equipment vendors. Finance terms of three to seven years are typically required; the GFAs will allow for guarantee terms up to eight years. Financing can be provided direct to the energy user or to the EE business or energy service company (ESCO) which contracts with the end-user.

### **Guarantee Facility Agreements**

47. Pursuant to the Guarantee Facility Agreements (GFAs) with IFC, participating FIs propose qualified EE project transactions by providing summary information on the transaction to IFC; IFC reviews the transaction for approval under the guarantee. The guarantee program gives participating FIs a risk management tool to create creditworthy financings and allow projects to be funded that otherwise might not be funded because of credit concerns. Projects are funded with the FI's own resources, but with CEEF guarantee support.

48. Key terms of the GFAs are provided in Annex VI. These terms are summarized as follows. Each GFA defines a "Facility Liability Limit" (FLL), which is the maximum amount of guarantee claims that IFC would ever pay out under a GFA, and a "Transaction Guarantee Liability Limit" (TGLL), which is the maximum amount of the guarantee liability which IFC can assume for any single transaction. When Transaction Guarantees are written, a TGLL schedule is created which defines the guarantee liability at any point in time under the transaction. The TGLL amount declines as the outstanding principal balance of a guaranteed transaction is amortized and declines. The guarantees are *partial*, up to 50% of transaction principal, and are provided on a "pari passu" basis, meaning that, in a default and loss event, IFC as Guarantor shall pay to FI, or its designated Guarantee Beneficiary, the Guarantor's proportional share of the principal loss and that all recovered

monies, net of reasonable collections costs, will be distributed to the Guaranteed Beneficiary and to IFC in similar proportion.

49. The GFA also includes provisions which allow IFC to reduce the FLL if the FI does not meet certain targets for use of the guarantee facility; this provision allows IFC to reallocate guarantee capacity to other FIs.

50. A guarantee fee will be charged by IFC as a percentage, on an annual basis, of the outstanding guarantee liability limit. These fees convey to IFC as a return on the capital committed by IFC under the facility. IFC raises its investment funds through commercial international capital markets and must pay interest on its raised capital. These fees help define those costs and provide a return on that capital. IFC does not anticipate making a profit given its un-reimbursed legal, supervisory, management and other costs associated with operating the Project. Pricing for the guarantee has been determined for each country during appraisal based on country risk, assessment of country market conditions and IFC pricing policies. A positive price is deemed essential to ensure that participating FIs allocate the guarantee resource appropriately. IFC wants to ensure that the guarantee pricing is consistent with other IFC guarantee product pricing in the region and with what the market can bear, and, at the same time, not be so high as to discourage use of the guarantee and hence limit the Project's development impacts. Pricing will be the same for all FIs within each country. These prices remain subject to final negotiation with participating FIs. IFC will also charge a modest origination fee upon execution of the GFAs to defray local legal costs of originating GFAs and to encourage use of the guarantee resource. These fees pay local counsel for evaluation of local law as it pertains to the enforceability of the GFAs in the local market.

### **Guarantee Products**

51. Based on market opportunities in each CEEF country, the guarantee program will offer three different products: (i) individual transaction guarantees; (ii) residential portfolio guarantees; and (iii) special project guarantees. "Individual transaction guarantees" cover the most common projects (such as lighting, motor, space conditioning, automated control and cogeneration system) with loan sizes of approximately \$50,000 - \$1,000,000. Streamlined procedures for approving guarantees with liability limits up to \$500,000 will be deployed; these have been developed for certain financial products and will continue to be developed during program operations as participating FIs develop new financial products to address additional market niches.

52. "Residential portfolio guarantees" are designed to address the relatively uniform nature and small size of EE loans to the single-family and multi-family residential sectors. The so-called "retail guarantee" is structured on a portfolio basis, where large numbers of small projects are being financed systematically. IFC will agree with FIs offering these small loan products on guidelines for issuing loans which qualify for the IFC guarantee and will approve those transactions within the portfolio on a no-objection basis, subject to certain criteria being met. The retail guarantee product is documented with a modified Transaction Guarantee Agreement and an Escrow Agreement, both of which act in concert with the GFA.

53. Larger projects, greater than approximately \$1 million in size, and hence guarantee liabilities in excess of \$500,000, will be considered for a "special project guarantee" and will be evaluated and approved by IFC on a case by case basis. Typically, these will be projects which require more substantial appraisal directly by IFC and therefore fall outside the bounds of the streamlined approval

procedures. In allocating guarantee capacity amongst participating FIs, some guarantee resources will be reserved and unallocated for use and allocation on special project guarantees.

54. IFC has set the maximum single transaction guarantee liability limit (TGLL) for this program at \$1.875 million. The maximum TGLL is a key risk management parameter for the program to assure that the guarantee portfolio is properly diversified and risk is not overly concentrated in any single transaction. The maximum TGLL is also an important for marketing purposes, as it defines or limits the target market of EE project sizes for which the guarantee can be used. During appraisal, many EE projects were identified in the capital cost size range of \$1-4 million, mainly for comprehensive upgrades of district heating system thermal plants, heat distribution and heat substation projects which represent a substantial and important market segment in the region and in Czech Republic and Slovakia particularly. With a maximum TGLL of \$1.875 million, which, with a 50% guarantee can support loans up to \$3.75 million in size, the program will be able to address and support lending to this important market segment.

### **Guarantee Procedures and Underwriting Guidelines**

55. IFC has developed procedures and underwriting guidelines for Transaction Guarantees (TGs) prepared and administered under the HEECP; these guidelines will be adapted to each CEEF participating country's condition and in line with the internal IFC management plan for the program. Preparing TGs and administering the GFAs have the following requirements: (i) GFA requirements for FIs to originate TGs; (ii) IFC procedures for reviewing, approving, and issuing executed TGs; (iii) credit and risk analysis and structuring guidelines for transactions proposed for TGs; (iv) post-closing administration of TGs and GEF requirements for project monitoring; and, (v) GFA administration and management of FI relationships.

56. The HEECP guarantee program has been built around financial products designed for specific end-user sectors and EE applications, for example: single family residential (retail gas program), multi-family housing (blockhouse program), municipalities (streetlighting program), and ESCO projects for new boiler and cogeneration systems. Credit and underwriting guidelines and due diligence checklists for reviewing and approving TGs have been developed for specific products in practice (see Annex V). These guidelines have also been provided to FIs to provide prescriptive guidance, upgrade the quality of information they submit, so that the FIs carry the main burdens of transaction origination and analysis. This practice will be continued in the new CEEF country programs.

57. To initiate a Transaction Guarantee, the participating FI submits an Appraisal Report providing all essential information needed by IFC to approve the transaction for a guarantee. In practice, the country program manager will review this information with the FI in advance of formal submittal of an Appraisal Report, to confirm that the transaction is eligible, and to identify key issues in the credit risk structure and analysis. IFC will also assure that proper engineering information is provided to establish an energy and emissions savings baseline and monitoring plan for the project. IFC further reviews the underlying loan or lease documentation for the transaction; this documentation is standardized to the greatest extent possible to streamline due diligence. Overall exposure to particular borrowers is also monitored. This review becomes critical when an FI has a concentration of EE project business with individual ESCOs.

58. Once a complete Appraisal Report has been submitted, internal IFC management review is conducted to approve the transaction for a guarantee. This process is defined further in the Management and Administration Section, below. When an FI has developed niche EE finance products, for which multiple similar transactions are being prepared (e.g., for multi-family housing or municipal streetlighting projects), then streamlined approval procedures can be invoked, at IFC's option. These establish standard underwriting and credit guidelines for such transactions, and allow those transactions meeting these agreed guidelines to be approved for guarantees on a rapid no-objections basis. See Annex V for guidelines developed during appraisal for two key market sectors for CEEF.

## **PROGRAM COMPONENT II: A TECHNICAL ASSISTANCE PROGRAM RESPONSIVE TO THE NEEDS OF THE FI AND ESCO PARTNERS**

59. The CEEF technical assistance (TA) programs have two main purposes: (i) to prepare projects for investment; and (ii) to build EE and FI industry capacities in each country. TA will be provided at several levels:

for financial institutions (FIs) participating in the guarantee program, for marketing their EE finance services, preparing projects for investment, developing new EE finance products, and building their capacities to originate EE project financings;

for EE and ESCO businesses, for building their corporate capacities and developing EE projects; and targeted EE market promotion activities, generally undertaken in cooperation with other organizations.

60. In addition, the TA program will fund necessary monitoring and evaluation activities to define baselines and confirm post-installation the energy and emissions savings achieved by projects supported by the guarantee and TA program.

61. This section describes the TA program design generally; specific TA program activities are being adapted to needs of each country and its market participants. Remarks on special features of each country TA program are included in the country sections of this Project Document, based on IFC's project appraisal (Annex I).

### **FI Training and Marketing**

62. For participating FIs, the TA program will offer training in EE finance. Training will include introduction to EE technologies, economics and end-user savings benefits.<sup>4</sup> Special features of EE transaction structuring, including ESCO lending and project finance techniques relevant for EE projects, will be taught. These techniques will vary and must be applied to specific end-user sectors. Specific cases for use of project finance techniques applied to EE, thermal plant and small cogeneration projects will be developed with participating FIs. Training will also focus on marketing EE finance services and one-on-one consultations with each FI to establish an EE finance unit within an appropriate department of the FI.

63. *Appointment of Lead FI Managers.* The program must assure internally within the FI that EE finance knowledge and availability of the guarantee program is broadly understood. This knowledge must be developed amongst FI staff involved in both finance origination and in credit structuring and decisions, and then promoted within the FI's branch network. Therefore, each FI participating in the guarantee program will be required to appoint one senior person responsible for credit and one senior person responsible for marketing and origination to lead the FI's participation in the guarantee program. The senior credit manager will be responsible for assuring that the availability and terms of the guarantee are recognized throughout the credit structuring, analysis and decision-making process within the FI. The senior marketing and origination person will be responsible for leading the FI's EE finance marketing and transaction origination program, and assuring training of product line and branch managers who will also be originating transactions. Each participating FI, early in their tenure

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<sup>4</sup> EE equipment tends to lack collateral/asset value, a negative credit feature. However, EE projects create cost savings for the end-user, improving their ability to pay, and they typically involve essential functions of an end-user's facilities, ones they can *not* do without, improving the end-user's willingness to pay.

with the guarantee program, will be required to prepare a marketing plan for their EE finance activities; technical assistance will be provided to both help them prepare and to implement the marketing plan.

64. EE Finance Marketing Plan. The TA program will focus particularly on marketing. The program will be proactive in engaging FIs in this market, especially by assisting FIs to establish relationships with EE businesses, equipment vendors, contractors and project developers; these companies need FI financing to support their sales. A primary means for FIs to market EE finance services is through relationships with EE businesses. Workshops and events sponsored through the CEEF TA program will facilitate such engagement with the industry.

65. Development of Niche EE Finance Products. An FI's marketing plan will also define the EE finance products it will offer by target end-user sector, transaction size, credit characteristics, security structure, tenor, economic parameters and documentation requirements. Because EE finance can address a range of end-user sector and project types, it is important to take a "financial product" approach to development of various financing structures. For example, in HECEP, financing products have been developed for EE financing for multi-family housing, municipal streetlighting, district heating, industrial cogeneration implemented pursuant to energy sales agreements, and hospitals, with financing offered both direct to end-users and to ESCOs. Financing structures have been adapted to the institutional and credit requirements of each type of end-user and include direct recourse to end-users, direct recourse to EE/ESCOs and limited recourse project financing; CEEF will continue to develop new financial products during its operation. An FI's selection of the financial products to be offered will be based on their finance appetites and capabilities and market opportunities. The TA program will assist each FI to develop and adapt EE finance products to target sectors.

### **Technical Assistance for ESCOs and EE Businesses**

66. The TA program includes several activities for EE and ESCO businesses, both for building their corporate capacities and for developing EE projects for investment. These programs are designed to ensure a pipeline of transactions for financing by participating FIs and supported by the guarantee. Specific efforts to assist EE/ESCO businesses include assistance in developing projects, finance and contract structuring of projects, transfer of ESCO business tools and best international ESCO business practices, and assistance arranging financing for projects. In addition, for the strongest most active EE/ESCO companies, the TA program will provide assistance in business planning and raising equity capital for their further development.

67. Capacity Building and Training for EE/ESCO Companies. Capacities of EE/ESCO businesses vary throughout CEEF countries. ESCOs are operating already in Czech Republic and Slovakia but ESCO business concepts are fairly new in the Baltic countries. The TA program will establish relationships with a range of EE businesses -- engineering firms, mechanical and electrical contractors, equipment suppliers and vendors, as well as project developers and ESCOs. These firms need assistance in EE project development, finance structuring and investment preparation. Once projects are well-structured, they can be presented to participating FIs for financing. The TA program will assist EE businesses to arrange debt facilities for their projects with participating FIs; structuring a debt facility allows the EE business to standardize their project finance structure terms, make financing offers with greater confidence to their customers, and expedite due diligence on and closing of financing arrangements.

68. **ESCO Business Planning and Equity Capital Raising.** The TA program will also provide financial advisory support for business planning, corporate finance planning and equity raising for select EE/ESCO businesses. Such support has proven important in HEECP where a few smaller ESCOs which have been active deal generators under the facility have become over-extended in their debt exposure relative to their capitalization. Their ability to continue to initiate loans depends on their ability to raise equity. Building upon this experience, the work scope for TA support within CEEF for particular companies can include a mandate to raise equity capital. Equity investment opportunities for IFC and other relevant private equity funds such as the IFC-sponsored Renewable Energy and Energy Efficiency Fund (REEF) will be identified and pursued, as will opportunities to assist local ESCOs to raise equity from other funds and investor sources. Increasing the financial capacity of EE/ESCO businesses will increase the volume of EE transactions for the Program. This support will be provided on a co-financed basis, with the costs of the selected financial advisor shared 50/50 with the EE business.

69. ***SME Programs.*** The TA program will include specific initiatives targeting SMEs. SMEs will participate in CEEF in two ways. First, as energy users, SMEs will receive financing supported by the Project for EE investments in their facilities. Second, as EE businesses SMEs are involved in delivering EE equipment, projects and services.<sup>5</sup> With training, these businesses can expand their product and service offerings and their sales. Training curriculum can include: efficient technologies and equipment, energy auditing techniques, financing EE projects, fundamentals of project development, marketing efficiency services, working with specific partners organized by the Project (FIs, district heating companies, ESCOs, etc.), and business management. The Project can help create sales for these businesses by organizing markets, supporting energy audits for potential customers, and providing access to customer financing.

70. ***Energy Audits and Project Development.*** The TA program will also work at the project level and support development of projects, beginning with energy audits if necessary. Performing an energy audit for a prospective EE customer is the beginning of the project sales cycle. Information gained on EE investment opportunities, their costs and savings, are used to make decisions about project design and implementation. By supporting energy audits, CEEF will assist in building a pipeline of projects for financing. Participating FIs and EE businesses will identify prospective customers. Preliminary "walk-through" level audits can be performed for relatively low cost, between \$1500-2500 per facility. The TA contractors will establish guidelines for performing the audits and qualify the set of engineering firms to perform the audits. End-users will be asked to sign an audit agreement to evidence their cooperation, commitment to provide necessary information and intent in developing cost-effective EE projects, including appropriate levels of project engineering necessary to fully develop the projects opportunities identified preliminarily through the walk-through audits. It is planned to use TA funds for these EE audit and project development purposes in a limited fashion only as needed to stimulate the market.

### **General and Target Market Development**

71. The TA program will include activities to support general EE market development and to target hard-to-reach niche markets. Priority markets include: (i) end-use EE for district heating

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<sup>5</sup> The standard EU definition of SME is that a "small" business has less than 50 employees and annual revenues of less than approximately \$2 million and "medium" business has less than 250 employees and annual revenues of less than \$10 million.

system customers; (ii) cogeneration and EE for district heating systems, hospitals, universities and other public sector buildings; (iii) multi-family housing; (iv) municipal streetlighting; and (v) thermal plants and end-use EE for SMEs. This work is structuring intensive and there is overlap between it and project finance structuring work to be performed with FIs and EE businesses. The TA program will have some flexibility in use of these funds to respond to opportunities. The program will also seek to co-sponsor EE finance workshops in cooperation with other interested agencies.

### **Contracting and Management of Technical Assistance Program**

72. The TA program will be contracted out to teams of local and international contractors. Primary contractors will include: (i) engineering firms experienced in project development, to conduct the energy audit and project development programs, and the project monitoring activities; (ii) qualified not-for-profit organizations whose mission is to promote energy efficiency; and (iii) financial advisory firms, to conduct the FI training and ESCO business support programs. These firms may utilize sub-contractors. Some TA contractors will be hired for work in specific countries and some will work across countries. The TA contractors will be managed by the CEEF Country Teams with guidance from IFC's EE sector specialists in the Environment Department. Many TA activities supporting participating FI's will be conducted directly by each respective country Program Manager, who will have line responsibility to manage program relationships with FIs. TA and training tools and methods are being developed by IFC for use and adaptation in all countries. TA program management is designed to facilitate structured learning and leverage across HEECP and the 5 CEEF countries and enable efficient deployment of learning tools and contractors across all countries.

### **Project Implementation: Management and Administration**

73. The CEEF Program will be implemented as a joint venture of the IFC Investment Department and the Environment Department. The primary responsibility for managing the Regional Program Managers (one focused on the Estonia, Latvia and Lithuania, the other focused on the Czech and Slovak Republics) and overseeing the two regional program offices will lie with the Investment Department. The Environment Department's Environmental Finance Group will be responsible for providing guidance and advice to the Program Managers related to technical issues of EE market development, program marketing, risk assessment, and project structuring as well as to the Investment Department on an as needed basis. The Environment Department will also be responsible for supervising use of the GEF funds and meeting the reporting and oversight responsibilities – including environmental assessment and monitoring and evaluation – of the GEF.

74. Two local program teams will conduct program operations: one responsible for the three Baltic countries, and one responsible for the Czech and Slovak markets. IFC has not yet identified the personnel staffing the program teams, with the exception of the Czech-Slovak team leader, who will be based in Bratislava. The program budget (Table VI) reflects the resource allocations which support this structure.

The local Project Teams will have the following configurations:

Five person Baltic Team: [Note: Assumes Latvian Program Manager; the core team will be based wherever the Manager is based – to be determined.]

- Riga: Regional Team Leader; Financial Analyst; Program Administrator

- Kaunas/Vilnius: Lithuania Country Manager
- Tallin: Estonia Country Manager

Four person Czech-Slovak Team:

- Bratislava: Regional Team Leader; Financial Analyst; Program Administrator
- Prague: Czech Country Manager

75. These positions and the direct field office operations expenses are supported directly from the CEEF Program Administration and Management budget. They will be supervised by IFC's East Europe Regional Department which will also provide legal, accounting, and administrative support without charge to the GEF CEEF project budget. Office arrangements are presently being negotiated in each city with the objective of co-locating with strategic partners who can also provide administrative support and an environment appropriate for banking business. IFC has confirmed that the Czech country manager will work out of the IFC Prague office. Final hiring and lease arrangements cannot be secured until GEF funds are transferred to IFC following GEF approval of this Project Document.

76. Program Administrative Efficiencies. The aggregation of program operations for five countries within two program offices provides substantial administrative savings. The geographic characteristics of the CEEF countries and communications/transportation infrastructure within these two sub-regions enables this to be done efficiently and effectively. Because of the small size of the target markets, and the regional integration which characterize the operations of many of the partner FIs, equity funds, ESCOs and other private sector organization partners through whom CEEF will be implemented, these sub-regional groupings are expected to be operationally efficient as well. The resulting sub-regional synergies provide cost saving opportunities which IFC will exploit through this integrated implementation structure.

77. Overseeing the CEEF Program Managers in their execution of the guarantee facility will be the Portfolio Supervision Group of the investment department which will supervise the parallel IFC investment and the program offices. IFC's credit and appraisal standards will be maintained through this supervision, which will include the supervision of program administration and ensuring fiscal prudence in the execution of the guarantee facility, in addition to providing technical financial structuring guidance.

78. Working in support of the Regional Managers will be a Projects Officer (EE Specialist) of the Environment Department. This Projects Officer will independently supervise the use of GEF funds and ensure that GEF reporting is completed and GEF guidelines are followed in the execution of the project. This includes the development and execution of a comprehensive monitoring and evaluation program to measure the GHG emissions reductions resulting from the Project.

79. These regional offices will function in an integrated manner, including the HEECP office in Budapest. This will enable cross-cutting activities and lesson-sharing in a manner modeled on the multi-country operations of the IFC/GEF Efficient Lighting Initiative. The collaborative operations of the HEECP-CEEF team will be launched through a program initiation workshop hosted by the HEECP team in Budapest in the autumn of 2002, where the "technology" developed in the operation of HEECP will be taught and shared, and the all-important personal and professional relationships established which will provide the basis of IFC's Central and Eastern Europe regional EE finance team. While tailored to individual country market conditions and the requirements of participating FIs, the TA program will draw on materials developed and contractors engaged on a regional basis. As such, IFC Trust Fund funding is multi-country in focus and, in some cases, include both Hungary

and the five CEEF countries in the scope of work. In addition, because of the small size of the target markets, and the regional integration which characterize the operations of many of the partner FIs, equity funds, ESCOs and other private sector organization partners through whom CEEF will be implemented, the regional operations are expected to provide operational efficiencies in dealing with partner organizations active regionally as well.

80. The program team structure mirrors that which has evolved in Hungary through trial and error in an effort to streamline project processing and appraisal, manage a pragmatic, deal-oriented TA effort, and manage effective FI relations in each market to ensure effective management of HEECP. In this structure, the role of the two CEEF Regional Team Leaders (Regional Program Managers), patterned on HEECP is as follows:

- *Relationship manager with FIs:* negotiate and oversee GFAs; market the program to new FIs; manage the project pipeline with each participating FI; advise FIs on transaction credit reviews and appraisals; drawing on technical support, work with FIs to develop new financial products and market them; working with FIs develop and support custom TA program to support their development of EE financing capacity.

- *First stage credit review for streamlined IFC approval of transactions under the guarantee facilities:* work with FIs to ensure that transactions presented for approval under the facility meet pre-agreed criteria; evaluate transactions as they are presented by FIs; present transactions to IFC Credit Committee for approval under GFA or approve those transactions directly if applicable to streamlined procedures; work with Credit Committee to develop credit guidelines appropriate for each sector, financial product, client type, and country under the program.

- *Marketing of program:* work with ESCOs, NGOs, government agencies, and FIs to develop new financial products, marketing materials, strategic partnerships appropriate for each country market; educate potential partners and stakeholders about the program.

- *Manage the Technical Assistance program:* work with FIs and ESCOs to develop TA products responsive to the market needs; maintain the focus of the TA program on developing short-term EE project dealflow and developing capacity in the financial sector to finance EE projects; develop and manage a network of TA providers contracted for the marketing, deal structuring, investment guidance, financial analysis, business development, engineering, monitoring and other TA program functions and assure responsiveness of TA contractors to the needs of the program participants.

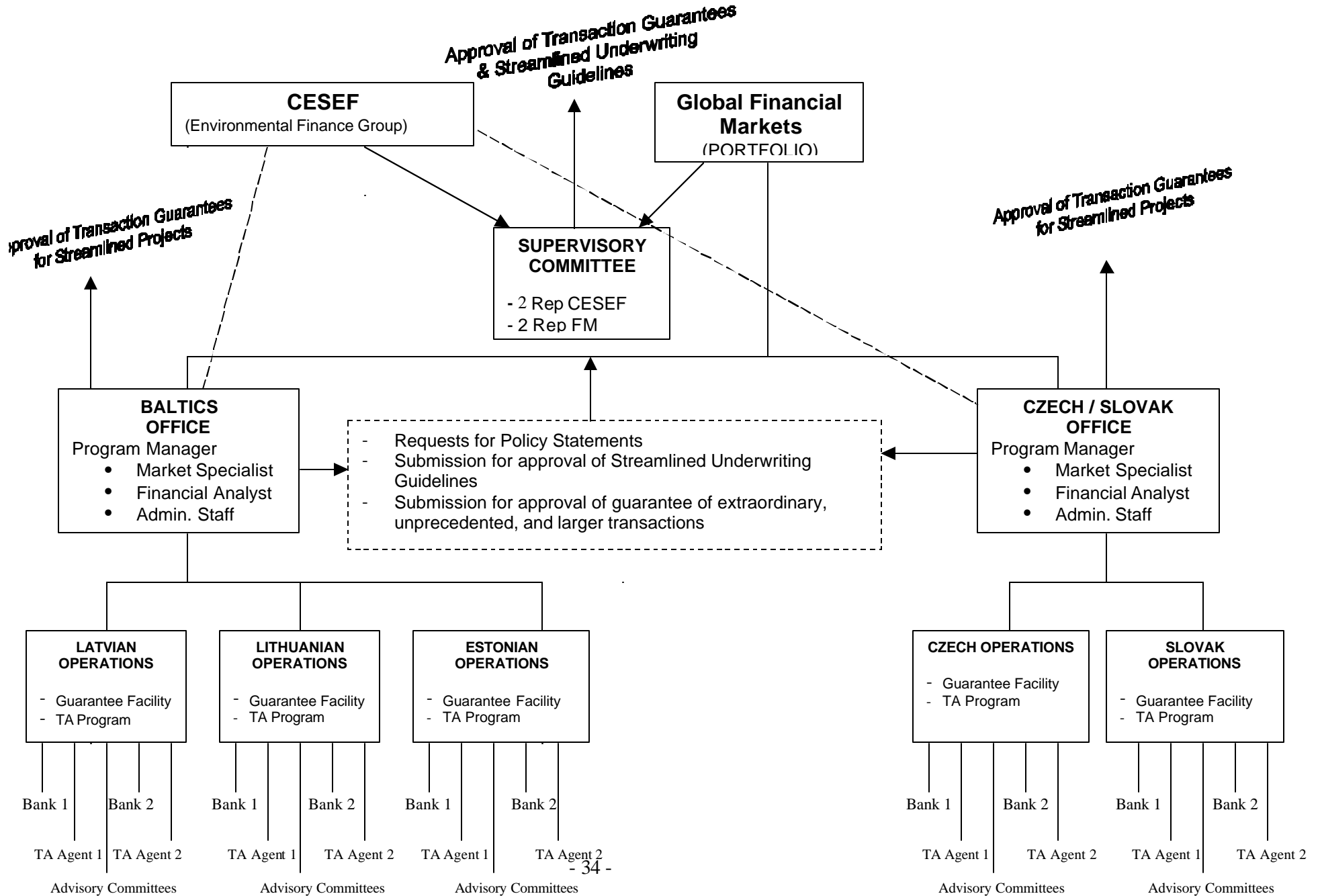
- *Maintain a nimble program which is responsive to new opportunities in the market, and presents few barriers, complexities, and costs for participating program partners;* develop streamlined processes for program participants; manage a lean and efficient program team; ensure focus on deal generation and completion.

81. A Supervisory Committee, patterned on the Supervisory Committee in HEECP and comprised of the same members, will be responsible for ensuring that IFC and GEF's interests are upheld regarding credit and exposure issues associated with the operation of the guarantee facility. However, the credit procedures of CEEF are substantially streamlined relative to HEECP, with credit decisions (approval of transactions proposed by FIs for inclusion under the guarantee facility) taken largely by the CEEF Program Managers in the field. These decisions will be based on guidelines

established by the Supervisory Committee. Individual transactions representing guarantee exposures greater than \$500,000, or transactions representing structures or sectors not previously approved by the Supervisory Committee in the facility or governed by a Supervisory Committee-endorsed underwriting guidelines will be subject to approval by the Supervisory Committee.

Figure 1 (below) provides a view of the relationships across the CEEF implementation team.

**FIGURE 1: CEEF PROGRAM OPERATIONS DIAGRAM**



## **Program Operations Roles and Responsibilities:**

Supervisory Committee: (4 members, including the managers and one other representative of each of the Investment Department and the Environment Department.)

- Approve financial intermediaries (FIs) for program participation
- Approve guarantee facility agreements (GFAs) with participating FIs
- Approve and modify streamlined approval processes and underwriting guidelines
- Approve non-streamlined category transactions undertaken pursuant to the GFAs
- Address matters of policy and FI compliance as they arise

Advisory Committee (1 Committee operational in each country):

- Provide a forum for liaison, advice and communication with key Program stakeholders from concerned government agencies, NGOs, EE business and end-user groups, fulfilling GEF requirements.
- Meet on annual and as-needed basis.

## **Investment Department**

Director:

- Execute Program related legal documents (based on the recommendation of the Supervisory Committee)
- Authorize disbursement of guarantee funds

Manager (direct and delegate, as appropriate):

- Participate in the Supervisory Committee (with the possibility of delegating the decision making to the other member from the same department)
- Appoints Member of Supervisory Committee
- Execute transaction guarantees (based on the recommendation of the Supervisory Committee)
- Execute Program-related legal documents (based on the recommendation of the Supervisory Committee)
- Authorize disbursement of operating funds (with Environment Dept. Project Officer)
- Authorize disbursement of technical assistance funds
- Approve annual program operating budget
- Hires and supervises Program Team

Investment Staff:

- Member of the Supervisory Committee
- Fulfill a credit advisory role to Local Program Manager, in reviewing the FIs' guarantee proposals and in preparing proposals to the Supervisory Committee
- Administers and manages Regional Program Management offices and staff
- Provides oversight of streamlined project approval, including undertaking review of sample approvals selected on a random selection basis

Regional Program Managers: (see narrative above)

- Manage the Program's day to day operations

- Manage relationships with FIs, including TA coordination, pipeline management, transaction feedback and approvals, portfolio reporting requirements, fees management, compliance with program requirements, etc.
- Hire, Supervise and Manage Program staff
- Program Marketing and outreach
- Develop TA program with objective of maximizing dealflow for program
- Administer TA program through network of local partners and consultants
- Fulfill reporting requirements for donor-provided TA support
- Serve as the first level of credit review, with help from Investment Dept. Senior Staff
- Provide approval of guarantee support for transactions fulfilling streamlined approval requirements
- Must have strong credit skills to meet IFC credit review requirements
- Prepare proposals to the Supervisory Committee with guidance from EE Finance Specialists from Environment Dept and Investment Officer from Investment Dept.
- Coordinate and manage TA activities, with guidance from EE Finance Specialist
- Respond to guidance of Environment Dept. to fulfill GEF-related responsibilities and requirements

**Environment Department (not funded from CEEF Project resources – note Table VI -- but rather through the IFC program coordination budget)**

**EFG Manager:**

- Participate in the Supervisory Committee (with the possibility of delegating the decision making to the other member from the same department)
- Appoints Member of the Supervisory Committee

**Project Officer**

- Advises Local Program Managers on design of T.A. program
- Approve annual program operating budget and TA budget with Investment Dept. Manager
- Manages GEF relationship and ensures fulfillment of GEF operational and reporting responsibilities
- Leads initiative to develop guarantee program replication in other countries

## **Project Scheduling**

82. In January 2002 IFC completed a pre-appraisal for CEEF, which resulted in the selection of the five CEEF countries and the general structure and sizing of the Project. Subsequently, IFC received Council endorsement of the CEEF Project Brief, and conducted a project appraisal which formed the basis of IFC's direct investment in the guarantee facility. This appraisal addressed the issues raised in the Annex VII: Appraisal Guidelines of the Project Brief and provided the basis for the program implementation details described in this Project Brief.

83. In June 2002, IFC's Board of Directors approved a direct IFC investment of \$30 million (first tranche) to \$75 million in the guarantee facility. Pending timely approval of this Project Document by the GEF Secretariat, IFC plans to begin implementation of the program in November 2002 based upon the initial tranche of GEF funding (\$11.25 million). IFC is presently negotiating terms and facility size with the lead FIs in each CEEF country (see Annex IV), for whom IFC has completed its appraisal. IFC is also engaging with these FIs to define TA support programs which will enable the rapid development of a project pipeline under the facility, once operational. In anticipation of these

operating agreements (GFAs), IFC has already undertaken preliminary review of several transactions presented by the partner FIs for potential inclusion in the facility.

84. There will be a four year period of TA implementation and origination of loan transactions under the guarantee facility. It is expected that the initial guarantee facility representing the full commitment of GEF resources to the Project (US\$45 million consisting of \$15 million from the GEF and \$30 million from IFC) will be fully committed through GFAs to participating FIs during the first 18 months of the Project. Once the facility is fully committed in any individual country, IFC will review credit conditions and market demand before releasing subsequent tranches of additional IFC investment in an expanded facility, thus further leveraging the GEF resources in the facility. This can total an additional \$45 million of IFC funding for the facility across the five countries. The GEF Council's endorsement of the full CEEF program described in this Brief will provide the basis for the commitment by IFC's Board to invest up to \$75 million in the facility. The initial GEF contribution of \$9 million to the facility ("GEF first tranche") will provide the critical mass needed to market and launch the guarantee product in the CEEF countries. IFC anticipates FI commitments to grow during the first six months of program operations to a level which will justify GEF commitment (executed through a GEF CEO quick response approval) of the remaining \$6 million GEF contribution to the facility plus \$0.75 million for Project operations and TA. The CEO approval of the full GEF commitment will be triggered by clear outputs from the Project resulting from operations with first tranche resources. Specifically, IFC will notify the CEO when FI demand for the guarantee facility exceeds \$18 million, as indicated by FI requests for GFAs in this amount, thus signaling the imminent need for the full GEF commitment to the guarantee. A quick response approval by the CEO at that milestone would enable the program implementation to move forward without delaying the initiation of additional GFAs under the facility – a critical operational requirement of the program necessary to maintain credibility with participating FIs.

85. During the initial 18 month period, early signatory FIs are expected to begin obligating transactions under their facility agreements. FIs will continue to originate transactions over the course of the first four year period, with loan guarantee coverage extending up to seven years for transactions initiated during this period. Therefore, the projected active life of the Project will be four years, with no further loan originations or TA activities anticipated beyond that point, subject to CEO approval of any extension. However, IFC notes the possibility that this four year active loan obligation period could be extended if market opportunities suggest a high leverage opportunity. An additional eight years of low-level Project maintenance activities will be maintained beyond the loan obligation period in order to manage the portfolio of GFAs, including standard supervision and GEF-related monitoring and evaluation, execution of guarantee payments when appropriate, and recovery actions related to poorly performing or bad loans.

### **Risk Analysis**

The key risk issues identified during appraisal and IFC's strategy for managing or mitigating them include the following:

86. *Slow liberalization/limited awareness.* None of the CEEF countries have yet reached the level of energy price liberalization which will be a pre-condition for EU accession. Even though below market energy prices greatly impact project economics and EE related awareness, our preliminary analysis of the individual country markets has already shown a sufficient pipeline of

economically attractive EE investment projects to support the inclusion of these countries in the program, even at current price levels. Furthermore, these countries are likely to be expected to fully liberalize energy prices before joining the EU, as EU competition laws prohibit state assistance in the form of price controls and subsidies. Therefore energy prices have started and are expected to continue rising in these countries, further strengthening the economics of EE related investments.

87. Deal flow under the facility is less than projected because FIs are unable or unwilling to reduce collateral requirements in response to the guarantee. Because of a legacy of historically poor credit procedures and the resulting high proportion of non-performing loans, FIs in each of the CEEF countries presently require over-collateralization from borrowers. In the Baltic countries, regulatory guidelines mandate minimum collateral levels. While initial GFAs executed under CEEF will be done on a simple pari passu basis, there is scope to modify the structure of the guarantee – such as by placing the GEF portion of the guarantee facility in a first-loss position relative to the FI’s exposure – thus enabling the FI to reduce its security requirements for loans executed under the facility.

88. Weakness of project developer sector. As part of a preliminary review of these markets, it was found that in the case of Estonia and Latvia, the project developer / ESCO segment of the EE market is somewhat underdeveloped. This might make it difficult to carry out more complex projects. Nonetheless, the FIs confirmed great potential for EE related lending in these countries, most often directly related to end-user borrowing. In addition, the TA program will be designed to support the development of EE businesses, building on and complementing pre-existing ESCO support activities sponsored by the EU and bilateral support agencies working in the region.

89. Untested legal environment. Based on a preliminary analysis of the markets, the legal environment was found to be generally supportive of lending for residential EE upgrades in most of the CEEF countries. Nonetheless, some of the relevant legislation was only recently implemented and has not been widely tested in courts. The banks are therefore not taking an aggressive approach to the market sector, generally speaking, while expressing interest in using CEEF’s guarantee to enable their initial steps into the market. During appraisal IFC confirmed that lending for housing will be particularly difficult in Lithuania due to legal limitations on cooperative housing ownership (condominiums are the predominant multi-unit private ownership mechanism, a form which limits the ability to assign security interests in common space thus limiting collateralization of loans to homeowner associations). As a result, CEEF will not focus on this sector in Lithuania during the initial year of the program during which time a World Bank housing sector finance initiative will address that segment of the market while also pursuing policy changes to enable private commercial lending under CEEF.

90. The guarantee mechanism proves to be inadequate for addressing financial barriers. It is possible that, due to high perceived credit risks on the part of FIs or a lack of bankable projects, a guarantee might not address the limiting factor to motivate FIs to lend. The CEEF countries have been selected through a pre-appraisal process which included assessment of the economics of EE investment and the appetite of FIs in the markets to invest in EE projects with a partial guarantee and their willingness to pay for the guarantee. The sizing of the project has been based upon preliminary indications from the FIs of the size of the guarantee facility which they are willing to support.

91. Participating FIs fail to market the guarantee program and devote sufficient internal resources to originating EE project investments. As in HEECP, participating FIs will have to pay an obligation fee associated with the commitment of IFC and GEF resources to an umbrella guarantee facility under which they will guarantee transactions. This secures their up-front commitment to generate loans

under the facility. Further, the TA support provided under the program is explicitly intended to support each FI's marketing and product development efforts with the intention of limiting the transaction costs associated with entering a new line of business in the EE sector. Finally, the terms of the GFAs allow IFC to de-obligate guarantee resources not yet committed to specific transactions so that they can be re-allocated to other FIs.

92. Greater than expected credit defaults. This factor could cause extraordinary losses for the guarantee program, exhausting the GEF guarantee reserves, and triggering losses for IFC thus diminishing the prospects for future replication of these instruments. IFC's GFA agreements with the FIs enable IFC to control the exposure of guarantee resources on a transaction-by-transaction basis. Exposure limits and risk criteria develop over time, based on experience, with conservative criteria initially used and then extended based on performance. Pari passu exposure with the originating FIs ensures the FIs' rigorous credit analysis and portfolio management. Finally, the credit procedures developed in HEECP, where actual losses have been negligible, and lessons learned in the execution of HEECP, provide a good experience base to inform the risk management procedures to be adopted in CEEF.

93. Adverse macro-economic conditions including increased inflation and interest rates or economic contraction. The CEEF countries were selected in part based on economic conditions and trends which provide a reasonable level of comfort regarding market conditions over the initial life of the Project. Beyond that, the Project success does depend upon macroeconomic conditions which provide an enabling environment for private sector investment generally. As an example, the volume of investment under HEECP increased greatly coincident with a drop in interest rates in the Hungarian commercial lending market below 15% midway through the pilot stage of that program. A guarantee instrument cannot be relied upon to overcome larger economic forces which hinder investment more generally.

### **IFC Risk Management Strategy**

94. These risks are anticipated, assessed and addressed at each stage of the Project's development: (i) in pre-appraisal where IFC's assessment of country market conditions informed selection of countries where the CEEF approach is most likely to be successful; (ii) during appraisal, during which guarantee terms were refined and negotiated, and TA program work plans detailed, and participating FIs and EE businesses selected who can make effective local partners; and, (iii) during Project execution.

95. IFC's comparative advantage mitigates risk. IFC's Project pre-appraisal and appraisal processes are conducted both for GEF funds and the parallel IFC investment. They draw upon IFC's experience with HEECP and other credit enhancement projects and EE investments in order to determine fully the appropriateness of the target countries for a guarantee or other credit enhancement product targeting EE investments. IFC will not undertake its investment in any country where the market risk is considered too great to manage. Thus, the GEF investment in CEEF not only benefits from the financial leverage provided by the parallel IFC investment, but also from IFC's vested interest in a successful execution of its parallel investment. This means that the project is designed and will be managed to ensure that the private sector investments underlying the guarantee will be undertaken and the loans ultimately repaid. Further, structuring the guarantee facility agreements with the FIs appropriately, and selecting only capable, motivated, financially

stable, and well-managed FIs to participate in the facility, will ensure effective participation and loss rates from non-performing loans to be within a commercially acceptable range.

96. *Working through multiple partners diversifies risk.* Even an effective appraisal and well-structured guarantee facility undertaken with "blue chip" FIs will not fully address or manage all risks associated with: changing strategy or ownership or management in participating FIs that may result in reduced commitment to the EE financing products created with the IFC and GEF credit enhancements; changing macroeconomic conditions in the target countries that create a more difficult investment climate generally; changing economics of EE investments due to energy price controls or reductions; or changing government policies resulting in eliminating a market driver which might have existed during appraisal (such as a coal-to-gas boiler retrofit incentive program). These risks could diminish demand for the guarantee product and the numbers of EE projects which the Project can support. In managing this set of risks, IFC will use a portfolio diversification strategy. By establishing a diversified set of FI and EE/ESCO business relationships and developing a diversified set of EE market niche activities IFC will seek to establish an adequate project pipeline and delivery of financing to an array of priority EE sub-sectors under a variety of market conditions.

97. *TA Program focuses on building the project pipeline.* The risk of not developing an adequate EE finance deal pipeline is probably the greatest risk associated with the program. Development and investment preparation of EE projects is structuring intensive. The TA program responds to this risk with training, business development, finance structuring and marketing assistance at several levels -- FIs, EE/ESCO businesses, and end-users -- all focused on building the project pipeline. The program will proceed using a financial product approach, designing and implementing suitable financial structures for priority niche markets.

### **Issues Related to IFC Management of the Guarantee Facility**

98. In addition to the Project risks described above, IFC identified several issues during appraisal of concern to IFC as a direct investor in and executor of the guarantee facility. These issues relate largely to issues of IFC policy and organizational operations. IFC has developed responses for each (as described below) which will enable it to manage these issues in its role as operator of the guarantee facility.

99. *Supporting publicly owned entities.* Some publicly owned and/or not yet privatized entities, such as some district heating companies, are in great need of financing for their EE investments. Given the very strict borrowing limits for public entities in each of the CEEF countries, interested FIs expressed strong interest in supporting this sector with the help of the CEEF guarantee. HEECP, indirectly through guaranteeing bank financing to private project developers, was able to support this market segment. Unfortunately however, in some of the CEEF countries, the number of more sophisticated ESCOs able to participate in such financing structures is rather limited. Considering that many of these publicly owned entities are independently managed and the ultimate beneficiaries of these projects are often private entities (such as the residential sector), IFC has adopted a target limit on the support provided to such projects as a percentage of volume of CEEF operations. This limit would be operationally efficient at roughly 20% of CEEF volume – although the expectation is that such loans would ultimately comprise a significantly smaller proportion of the full program volume. Further, IFC management has endorsed support for projects where the operating company (sponsor) is majority publicly owned and that public company operates as a corporate entity, with corporate governance procedures similar to those adopted

by IFC investee companies in the same market. This will be most immediately appropriate in the heating sector, where district heating companies are largely publicly owned by the local municipality.

100. *Supporting larger size projects.* As agreed by the GEF Secretariat, IFC will apply the full pool of GEF guarantee reserves in a regional basis, rather than country by country (i.e. GEF will cover first losses of up to US\$15 million regardless of where the losses occur). This enables IFC to consider supporting larger size projects. It became clear during the appraisal that there is great demand for guarantees to support EE financing of projects in the size range of US\$2-4 million, such as for district heating modernizations, cogeneration and industrial process upgrades. As a result, IFC management has approved CEEF supporting projects with a maximum guarantee amount of US\$1,875,000 (12.5% of the GEF reserves) on any single transaction. Under these guidelines, transactions requiring guarantees greater than \$500,000 will be approved on a case by case basis by IFC, via the Supervisory Committee, rather than by the local program office via streamlined approval procedures.

101. *Projects that benefit from several sources of guarantee or grant support.* Within the potential CEEF project portfolio there are some exceptionally developmental projects which are eligible for support from a variety of targeted programs, including grants and subsidies. For these cases, the CEEF program will adopt the guidelines used in the execution of HEECP2. Specifically, IFC will support projects under the guarantee facility which also utilize concessional financing from other sources provided that the guarantee supports only the commercial loan component on the finance package and that the commercial loan itself is not subsidized.

102. *Ensuring appropriate sectoral diversification in the CEEF portfolio.* For credit exposure purposes, the program may want to set other types of portfolio diversification standards, e.g., maximum exposures per single type of project, or to a single borrower. However, since specialized financial products are developed and marketed by the partner FIs, certain deal types and developers often dominate the pipeline during any single period of time. Therefore, it is practical that portfolio management take place over time with an eye to diversification over time as the portfolio develops and matures. Such guidelines and limitations can be set in practice, with the guidance of the Supervisory Committee and the Portfolio Group responsible for CEEF and with the assistance of the portfolio analysis and reporting provided by the Regional Program staff.

103. *Ensuring a clear and appropriate allocation of tasks and responsibilities in the Program management and administration.* Given the recent IFC restructuring, CEEF management felt it important to review and confirm the viability of the Project management and administration tasks previously agreed by the Investment Department and the Environment Department as a basis for the joint venture development of CEEF. IFC management strongly endorsed the management structure defined during the IFC investment approval which is based on the roles defined in the CEEF Project Brief and refined in this Project Document. Operations during the summer 2002, including recruiting of CEEF field staff, arrangement of office space, preparation of this Project Document, and negotiations with participating FIs have proven the strength of the joint venture and the smooth operations and clear roles of the IFC Project team.

## **SUSTAINABILITY**

104. CEEF is fundamentally designed to ensure the sustainability of the market impacts it seeks to deliver. The credit enhancements provided through the partial guarantee arrangements are intended

to bridge the gap between the FIs' high perceived risk and the actual risk of EE project loans. Specifically, the perception of high risk by FIs without experience lending to SMEs for EE on a project finance basis constrains their lending practices to this sector at present. The partial guarantee is intended to provide support to enable FIs -- driven by competitive pressures to expand their market reach -- to develop experience and establish a market for EE lending. The Project aims to ensure that the experience gained in lending under the guarantee facility umbrella will enable participating FIs to develop portfolios of EE projects which will form the basis for the corporate expertise necessary to manage EE lending risk on an continuing basis absent a guarantee. The fact that the guarantees are provided on commercial terms also grounds CEEF in market principles, further ensuring the sustainability of FI lending in the absence of further concessional support.

105. Because the Project is implemented by multiple FIs simultaneously, CEEF will also leverage competitive forces which will help to support a sustained market capacity as well. This is partly because the various FIs will develop specialized financial products targeting niche markets (such as specialized products for the industrial, municipal, institutional, residential sectors). This has been the case in HEECP, where product differentiation has driven the creation of financial products addressing opportunities across a range of sectors. The early participation of one FI in HEECP, and their success in establishing market share in the residential and SME sectors, subsequently drove the participation of an additional four FIs in the program, with each establishing aggressive marketing commitments for their new niche products.

106. The Project's TA program targeting ESCOs is a fundamental element of the sustainability strategy of CEEF. By building capacity to develop bankable projects within the ESCO industry -- and then supporting the financing of deals necessary to establish a track record -- CEEF seeks to build a sustainable capacity in the market to deliver EE projects. Further, in providing financial advisory support to successful (but under-capitalized) ESCOs operating in the CEEF countries, the Project will support the equity-raising efforts of project developers which they need in order to support expanded operations over the long run. In HEECP, such support has successfully enabled three ESCOs to raise equity from a variety of equity funds and international joint venture partners, enhancing the sustainability of the ESCO market and building a success story with a strong economic development outcome and generating sustained environmental benefits in the market.

107. Finally, CEEF's focus on EU accession countries during the final pre-accession period when intensive market liberalization and environmental regulatory and compliance reforms will be undertaken represents a significant piece of IFC's sustainability strategy. Specifically, CEEF will serve as a bridge to ready the market -- building capacity and establishing competitive market for both FIs and ESCOs during the transition period to EU accession. As EU-compliant energy price liberalization and regulations proceed aggressively during this period, this will create strong market drivers for the EE sector. These market conditions will be an impetus for sustaining the capacity and market activity developed through CEEF.

## **REPLICABILITY**

108. CEEF's replicability is limited to countries where market conditions support a guarantee product. (See the earlier section on "Country Selection" for a summary of the conditions appropriate for a successful use of partial guarantees to stimulate lending). At this time, the replicability of CEEF is limited by the need for a limited level of grant funding necessary for a TA effort to support

the participating FIs and ESCOs upon whom a successful facility depends, and to support program administration. Given the substantial leverage offered by the guarantee approach – leverage which is compounded by the IFC parallel investment which is fully replicable – it is reasonable to expect that funding agents besides GEF might be able to provide a source of program replication as well.

109. It is IFC's intent to maximize the replication of CEEF, both through mechanisms of disseminating the lessons of CEEF and by sharing the program guidelines and "software" with appropriate institutions able to leverage this information in other countries. IFC has begun this process both through speaking engagements undertaken by the HEECP manager in Europe, as well as through workshops and presentations organized by the World Bank Group. In addition, the project implementation team seeks to continue the "roll out" of the HEECP model – coupling GEF funds with direct IFC investment -- to other GEF-eligible countries where IFC does business, and where country conditions indicate that a successful deployment of the approach is possible.

110. IFC recognizes the importance of an effective model for applying GEF funds in a contingent liability modality which leverages private sector funds. Therefore, CEEF – as a replication in its own right -- is intended as a tool to further refine the HEECP model. As such, the implementation of CEEF will focus on further streamlining credit review, appraisal, and administrative functions within the program, thus moving the model closer to commercial terms and reducing the level of concessional money required for future replications. This is the ultimate goal of the process, although it is not reasonable to expect that the administrative and TA functions in the present program model will ever be fully sustainable from program fees and revenues alone. However, the goal of proportionally reducing the concessional portion of the financing is a realistic one. IFC will seek to refine the model and continue to replicate it in other regions with ever-greater leverage objectives.

## **STAKEHOLDER PARTICIPATION AND IMPLEMENTATION ARRANGEMENTS**

111. CEEF is implemented principally through private sector actors. The primary private sector partners fall into three categories:

- a) *Privately-owned FIs*; including commercial banks, leasing companies, and special purpose companies which provide debt financing for EE projects.
- b) *Private ESCOs*; including project development companies, mechanical contractors, engineering firms, and any enterprise which is in the business of developing EE projects able to implement such projects and present them for financing.
- c) *Technical Assistance providers*; including individuals and firms able to provide financial advisory services, marketing advice, technical training on EE project elements to the participating FIs and ESCOs for whom the CEEF TA program will support.

112. In addition, IFC has worked during appraisal and project development, and will continue to work in the CEEF countries during implementation, with a variety of partners from the NGO and governmental sector, as well as bilateral and multilateral development and finance institutions. Among those active in the field of EE finance in the CEEF countries with whom IFC has worked in developing CEEF are and the Czech Energy Agency (Czech Republic), Ekodoma (Latvia), The

Slovak Energy Agency and the Energy Center of Bratislava (Slovak Republic), the Estonian Energy Research Institute and the Estonian Union of Co-operative of Housing Associations (Estonia), and the Housing and Urban Development Foundation, EE Center, and EE Foundation (Lithuania). These organizations bring experience and capabilities, and in many cases are implementing EE market promotion activities which will complement or assist the delivery of the CEEF TA program. Specific partners and their complementary activities identified in each of the CEEF countries during appraisal are discussed in the expanded country background discussion found in Annex I. These activities formed the starting point for CEEF's specific TA plans in each country which support the specific needs of the FI and ESCO partners implementing the Project. CEEF will seek to leverage all complementary activities identified by inviting direct participation and collaboration in the delivery of the CEEF market development activities and through participation on the CEEF Advisory Committees in each country.

113. Broad scale stakeholder participation will be ensured through the establishment of CEEF Advisory Committees in each CEEF country. Modeled on the Advisory Committee which guides the HEECP program implementation, the Advisory Committee provides a formal vehicle for ensuring on-going stakeholder participation and input throughout the implementation of CEEF. Advisory Committee membership will grow and change throughout program implementation as new partnerships are developed and opportunities for collaboration are identified. The active participants in the Advisory Committee meetings for HEECP, which serves as a proxy for the expected function of the CEEF Advisory Committees, now numbers 25 members. The Committee membership includes relevant host country government ministry representatives, representatives of other GEF Implementing Agencies with GEF programs in the market, NGOs active in the field, representatives of other bilateral development agencies active in the market, as well as the FIs, ESCOs, and TA service providers participating in the program. While the Advisory Committee holds no direct authority or responsibility in the delivery of the program, its role is important in ensuring visibility and securing buy-in and support for the program across a range of institutions and sectors, as well as providing valuable guidance to program management to ensure that leverage opportunities are realized in the implementation of the Project. IFC places a high priority on the Committee's works. Senior IFC representatives regularly participate along with the program manager in the Committee meetings.

## **APPROPRIATENESS OF PROJECT IN TERMS OF CAS AND NATIONAL POLICIES**

114. IFC's investment department, which will implement the guarantee facility in CEEF, coordinates IFC's capital markets investments with the World Bank Country Assistance Strategy (CAS) and with national policies to develop the capital markets. During appraisal, IFC held consultations with its World Bank counterparts and reviewed appropriate CAS Sections to ensure the appropriateness of the CEEF investment in the context of on-going World Bank work in capital markets and the national policies they support in each CEEF country. In particular, the World Bank has endorsed the CEEF project as being directly supportive of national strategies in housing finance, the development of private sector-funded mortgages, and capital investment in the housing sector. IFC also met with government agencies responsible for EE to ensure the complementarity of the CEEF approach to be taken in each country relative to national energy, environment and economic development strategies. In particular, the housing sector finance products under development in CEEF with participating FIs (based on IFC's experience in the Hungarian market), presents an important response to the housing finance efforts of fundamental importance to the national

development strategies of each of the CEEF countries. Mobilizing private commercial capital to finance upgrades in both the housing and heating sectors is a huge challenge across Central and Eastern Europe. The innovations developed under CEEF present a critical potential resource in addressing the development strategies of the five CEEF countries. Further, CEEF presents an important vehicle for mobilizing the private capital investments in the energy sector which are critical to the CEEF countries' high priority efforts to achieve EU accession through the ambitious schedules set by each of the CEEF countries.

115. The Project represents a good example of World Bank - IFC cooperation. IFC's work in developing CEEF to leverage GEF funds with both IFC and private capital investments, is directly supportive of the Bank's and GEF's strategy of engaging private markets to generate global environmental benefits, and of mainstreaming GEF activities within the investment operations of IFC.

116. In October 1992, the World Bank's Executive Board adopted a new energy policy addressing energy efficiency and electric power. EE investments are considered by the Bank to be at the heart of its energy policy, with Bank activities being geared toward lending, advice and technical assistance to promote an enabling environment for EE projects. This emphasis was recently strengthened with the adoption of the Bank Group's environmental strategy for the energy sector. Energy efficiency is also a key component of the World Bank's country strategies, with planned or ongoing programs in Latvia and Lithuania, activities with which CEEF has been directly coordinated.

## **MONITORING and EVALUATION**

117. Monitoring and Evaluation (M&E) of program results and in relation to GEF's objectives is an important element of CEEF. While indirect benefits – as reflected in the establishment of sustained market capability to develop EE projects and an expanded market for EE project finance -- are expected to accrue from the Project, the focus of the M&E program will be on documenting the direct impacts of the project. The indicators of success will be concrete:

- Number of projects financed under the facility;
- Number of new financing products developed and marketed by participating FIs;
- Number of FIs originating EE loans under the facility;
- Number of ESCOs and end-users receiving loans under the facility;
- Total value of loans provided under the facility;
- Total value of loans provided by FIs participating in the facility, including non-guaranteed products;
- Total value of EE investments (including equity) under the facility;
- Energy saved in projects guaranteed under the facility; and
- GHG emissions avoided due to projects guaranteed under the facility.

118. Data will be developed during the course of the Project through contractors hired in each CEEF country under the TA program. These contractors will conduct verification exercises to confirm the successful completion of installations for which financing has been provided by participating FIs, and to confirm the appropriate use of those funds for EE-related applications. They will also review engineering studies prepared by project developers and estimate energy savings and GHG emissions reductions produced through the investment.

119. An M&E contractor will develop an M&E plan in consultation with IFC at the outset of the project. This plan will define the monitoring and verification activities undertaken during the Project in each CEEF country. By establishing this plan at the outset of the Project, IFC will establish a credible baseline from which to measure project impacts, and will establish continuity and efficiencies in the execution of a multi-country M&E exercise. The M&E contractor will conduct a mid-term evaluation following the second year of program implementation to inform program management of mid-course progress and to advise on any needed modifications required to maximize impact during the remaining implementation process. The M&E contractor will conduct a final evaluation two years after the four-year loan obligation period is concluded. Because most of the loans supported under the facility would still be outstanding at that time, this evaluation will not provide a full report on the final performance of the loan portfolio. However, it will analyze available data which will be indicative of portfolio performance, CEEF's success in originating loans, and the impacts of the Project on ESCO and financial industry activity. To await the end of the loan repayment period – twelve years following the initiation of the program – would undermine the value of the final evaluation for influencing future program designs and to achieve timely reporting to the GEF.

### **Monitoring and Evaluation Program Plan**

120. Upon CEO endorsement of the CEEF Project Document, IFC will develop a Terms of Reference which will define the workscope and responsibilities of a program M&E Contractor. The Contractor's engagement will commence immediately – concurrent with Project start-up and will conclude in year 7 – following two years of post Project operations close-down. The first assignment for the Contractor will be to develop a detailed M&E Workplan for CEEF. IFC's TOR for the Contractor and the subsequent workplan to be developed by the Contractor will be based on the following M&E program plan, subject to modification by the M&E Contractor.

The objective of the CEEF program monitoring and evaluation system design is to provide easy to collect and understand performance indicators allowing for a systematic monitoring, evaluation and reporting of critical program successes at:

- ESCO/end-user,
- FI, and
- country levels - reporting on both financial and social progress as well as on global environmental benefits.

The monitoring and evaluation process will be designed as a participatory process which enables capacity-building and understanding and applying lessons learned from program experience. The goal is to assess progress in Project implementation and achievement of results, and at the same time promote community ownership of the program. M&E is an integral part of the CEEF project cycle, and helps to ensure project success and sustainability. The program M&E framework serves several purposes:

- Strengthens project performance and project management
- Monitors compliance with IFC and GEF criteria
- Provides a base for technical and financial accountability

The M&E program will also indirectly benefit local ownership through building local capacity to implement and manage the projects/portfolios, and dissemination of lessons learned/best practices.

The M&E program will look at (i) EE projects supported by the guarantee, (ii) participating FIs and EE/ESCO businesses, (iii) country market impacts, and (iv) Project management and operations. The M&E program defines measurable performance indicators (see Program Objectives, above) for financial/business, energy, and environmental outputs. The M&E program also defines “indirect” or market impacts – as reflected in the establishment of sustained market capability to develop EE projects and an expanded market for EE project finance -- which the Project seeks to achieve and which the M&E program will measure. The M&E process also allows for assessment of management and operations (“process evaluation”) of both the guarantee and technical assistance programs. This will provide real-time inputs to assist effective Project management.

Monitoring and evaluation will be designed as a participatory process integral to Project implementation. The goal is to assess progress in Project implementation and achievement of results, test key assumptions in the Project design, and at the same time promote stakeholder ownership of the Project. CEEF participants and stakeholders will be surveyed and interviewed regularly as an integral part of the process. This enables capacity-building and rapid understanding and application of lessons learned from Project experience during the course of program operations. Thus, the Project M&E framework serves several purposes:

Monitors compliance with IFC and GEF criteria and achievement of performance measures  
Strengthens project performance and project management  
Provides a base for technical and financial accountability

121. Quantifiable direct Project performance indicators are as follows:

Number of projects financed under the facility;

- Number of new financing products developed and marketed by participating FIs;
- Number of FIs originating EE loans under the facility;
- Number of ESCOs and end-users receiving loans under the facility;
- Total value of loans supported under the facility;
- Total value of EE loans provided by FIs participating in the facility, including non-guaranteed products;
- Total value of EE investments (including equity) under the facility;
- acceptable levels of losses, i.e., guarantee claims payments and level of preservation of CEEF's capital from GEF;
- Energy saved in projects guaranteed under the facility;
- GHG emissions avoided due to projects guaranteed under the facility; and
- relative cost of GEF support per ton of GHG emissions reductions achieved.

123. Data will be developed during the course of the Project by program management through contractors hired in each CEEF country under the TA program. Financial and business measures will be collected by Project management during program operations. TA engineering review contractors will be retained in each CEEF country to collect and monitor energy and environmental measures supported under the Project. A program evaluator will be contracted during Project implementation start-up. The contractor will develop the M&E workplan, train the Project implementation team, establish baselines, provide real-time feedback to management, conduct a mid-term evaluation, conduct an end-of-program process evaluation, and finally complete an impact evaluation in year

seven. Delaying this final impact evaluation until year seven will allow two additional years of loan portfolio performance data to accrue following the end of program operations as well as enabling assessment of market impacts two years after the conclusion of program operations.

124. The TA program includes budget independent engineering review of the EE projects supported by the guarantee program both pre-and post implementation. This will be executed by local engineering firms in each CEEF country and will complement and support the work of the M&E contractor. The information developed through these engineering verification teams will be used in Project evaluation and GEF reporting. For the engineering review workscope, the engineering consultant shall:

- review files and calculations of energy savings and GHG emissions reductions estimates for the projects;
- define the methodology to confirm actual energy savings and GHG emissions reductions achieved by projects post- implementation;
- implement this post-implementation methodology, as approved by IFC; and,
- summarize results in brief written reports and maintain project files in consultation with IFC for ready access and review for GEF monitoring and evaluation purposes.

The methodology for post-implementation verifications will generally confirm the calculations made pre-installation for the projects. (These were the engineering projections which were used in approving the transactions supported under the guarantee facility.) Pre-installation calculations of the baseline, i.e., energy use of the existing system prior to the project, will be used. Key variables may include, for example: combustion efficiency of new boiler systems, customer energy loads, generation output of boiler systems, efficiency of end-use equipment, etc. Pre-installation calculations of the baseline, i.e., energy use of the existing system prior to the project, will be used and established in the pre-installation reviews. Participating FIs will assist in obtaining cooperation of project participants including the implementing contractor, and the energy end-user; this will be accomplished through appropriate provisions and commitments in the guarantee documents and enforced through the GFAs. Site visits to projects may be necessary. In proposing the post-implementation methodology, consultant will comment on their estimated degree of accuracy. For smaller projects, not all projects may be reviewed when a reasonable sample of similar projects will be satisfactory.

125. Indirect (market impact) outputs from the Project that are expected to promote indirect demonstration and long-term market development objectives include:

- expansion of EE finance activities by FIs in each country, increase in the experience and capacity of domestic FIs to provide EE project finance, and provision of more favorable credit conditions for EE financings;
- promotion of a commercially sustainable EE/ESCO industry and EE market in each country, including fostering development of new ESCOs;
- introduction and support of innovative financial products that deliver EE finance to previously un- or under-served market segments, e.g., multi-family housing, hospitals and the public sector;
- implementation of a diverse set of projects representing various end-use sectors, EE equipment and finance and contract structures to maximize demonstration value;
- market acceptance of innovative financial and contracting mechanisms demonstrated by transactions supported by the Project;

- increasing awareness amongst end-users of the value of EE investments and understanding of methods to undertake them;
- development and testing of new non-grant finance and technical assistance tools for the GEF, including appropriate methods to leverage commercial finance.

Achieving these market impacts comes from promoting the demonstration values of projects directly supported by the guarantee, and from technical assistance and capacity building activities. Baseline characterizations of market activities and patterns will be derived from original Project appraisal documentation and will be confirmed as part of the initial workscope of the main M&E contractor.

Delivery of technical assistance services will constitute one set of measures of indirect market impacts: (i) workshops and conferences delivered, (ii) trainings delivered, (iii) number of participants from each of the stakeholder sectors, (iv) EE/ESCO business advisory consultations delivered; (v) cooperative activities with government agencies.

In some cases, policy developments at the national government level may result from Project activities. For example, adoption of new procurement methods allowing private sector ESCOs to develop and implement EE projects for public sector entities. Or – as in the Lithuanian market – development of legally enforceable property ownership structures for cooperative housing which enable use of commonly-owned property as security for bank loans.

The evaluation interview process will be designed to determine qualitative achievement of the expected market impacts. Advisory Committee meetings will be used for this purpose also.

126. The Project evaluation involves review and opportunity to update the key theses underlying the Project design and structure. Are the guarantee products developed by the Project effective in motivating FIs to increase their EE finance activity? Is there continuing demand for the guarantee products? What is the continued relevance of the financial products to the various users? Are there other variations on or changes to the guarantee program structure that would make it more effective? How has a commercially sustainable EE/ESCO industry been fostered under the Project? Are the TA products well-defined and effective in achieving their stated purpose? What lessons for EE finance and EE project and business development are being gained and how are they applicable to the GEF? Is the Project effective in communicating and making available these lessons and experience to others? What strategies should the Project be considering to maximize its indirect impacts and demonstration value?

Progress in Project implementation will also be reviewed including management, administration and procedures in order to assess their effectiveness. Areas to be addressed include: clarity and ease of procedures for processing guarantees and TA grants by both IFC and FI partners and project participants, management and communications within IFC, record-keeping, communications and outreach to the market, budget status and cost control. These will all be key elements of the mid-term evaluation intended to enable mid-course programmatic improvements.

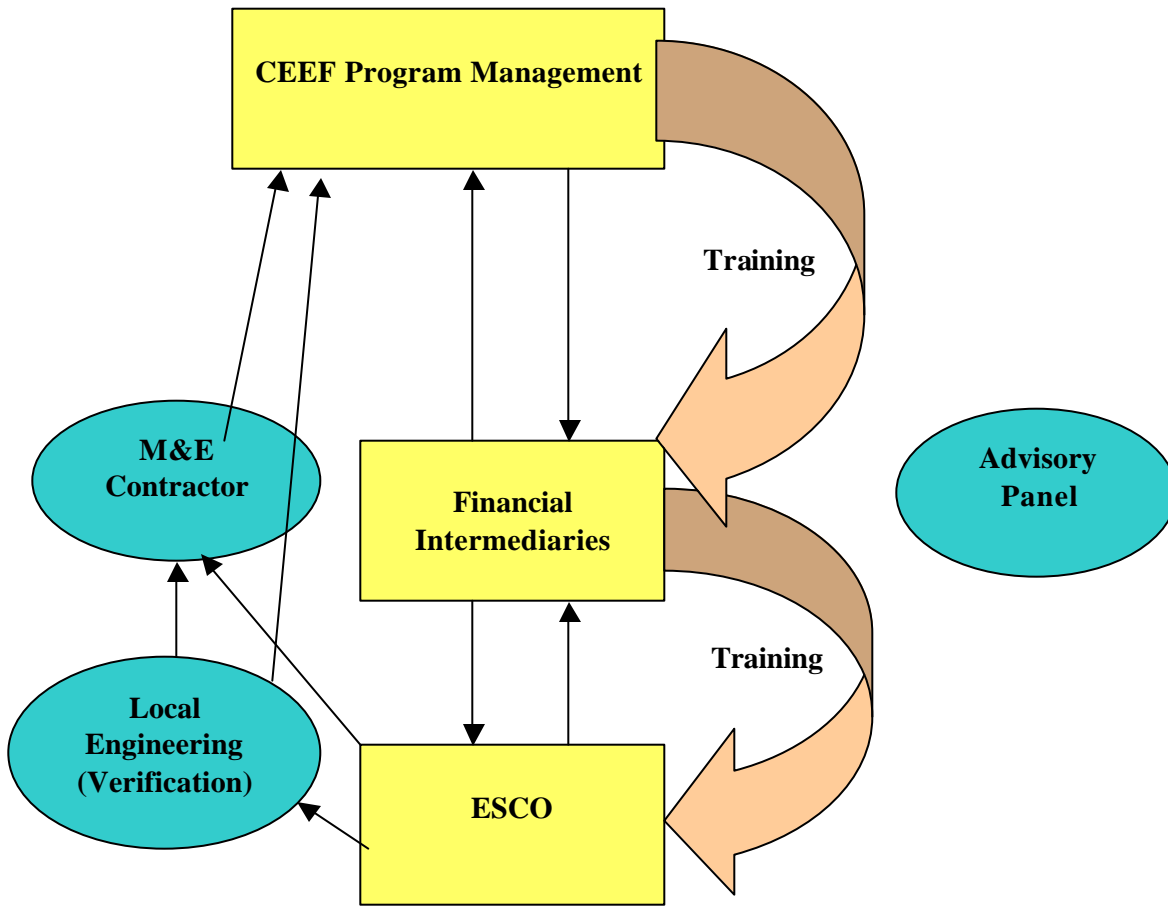
127. Methods used to conduct the evaluation include review of Project documents and structured interviews with Project staff, management, participants and stakeholders. Structured interviews will be conducted with:

- Project staff and management
- staff from participating FIs;

- staff from prospective partner FIs;
- in-country Project engineering consultants, ESCOs and EE business participating in projects supported by the CEEF guarantees and the TA grant program;
- relevant Government officials and EE NGOs, including those participating in the Project's Advisory Committees;
- interviews with any prospective Project participants who have investigated the Project but for whatever reason, failed or declined to participate; and
- interviews with any other stakeholders who are identified.

128. An M&E contractor will develop an M&E plan in consultation with IFC at the outset of the project. This plan will define the monitoring and verification activities undertaken during the Project in each CEEF country. This plan will be submitted approximately four to five months following Project start. By establishing this plan at the outset of the Project, IFC will establish a credible baseline from which to measure project impacts, and will establish continuity and efficiencies in the execution of a multi-country M&E exercise. The M&E contractor will conduct a mid-term evaluation following the second year of Project implementation to inform program management of mid-course progress and to advise on any needed modifications required to maximize impact during the remaining implementation process. The M&E contractor will conduct a final evaluation two years after the four-year guarantee availability obligation period is concluded. Because most of the loans supported under the facility would still be outstanding at that time, this evaluation will not provide a full report on the final performance of the loan portfolio. However, it will analyze available data which will be indicative of portfolio performance, CEEF's success in originating loans, and the impacts of the Project on ESCO and financial industry activity. To await the end of the loan repayment period – twelve years following the initiation of the Project – would undermine the value of the final evaluation for influencing future program designs and to achieve timely reporting to the GEF.

The organizational structure which will support implementation of the CEEF M&E program is as follows:



**Table VIII. CEEF Monitoring and Evaluation Program Budget**

<b>ITEM</b>	<b>AMOUNT</b>
Local monitoring and verification (Contracted thru local engineering firms @\$50,000/country)	\$250,000
M&E Plan finalization	\$10,000
Mid-term evaluation	\$50,000
Final Process and Impact Evaluation	\$90,000
<b>TOTAL M&amp;E BUDGET</b>	<b>\$400,000</b>

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### **Czech Republic** **EE Market Overview**

#### **Summary Overview**

Main targets for EE project opportunities in the Czech Republic (CR), as in other countries, are in district heating, industry and SMEs, municipal and institutional sector, and multi-family housing. EE project economics are sufficiently attractive to motivate investment. Energy markets and the power sector have been the subject of a major recent restructuring program. As a result, energy prices have risen faster than inflation in the last several years but still remain slightly below full cost recovery levels. Cross-subsidization between ratepayer classes still exists; however, tariff reforms are in place to phase out cross-subsidies in the next two to three years. Major market drivers for EE projects are: need to replace aged energy systems, recent and future energy price increases, availability of cost-effective EE projects, government-mandated energy audit programs, favorable developments of interest rates and increasing competition in banking sector, EU accession policies and environmental legislation targeting reduction of emissions, and on-going restructuring of corporate sector aiming at improving cost competitiveness. A substantial base of EE companies are operating in CR, including a number as ESCOs. As a result, end-user familiarity with ESCO business models is growing. Several successful government and international programs promoting EE market development have been operating, including, most notably, a program of the Czech Energy Agency supporting audits and providing small grants for implementing projects. These activities have built core capabilities in the market and a pipeline of projects in preparation. Several gas and district heating utilities are developing and are interested in sponsoring EE projects for their customers. These can be a powerful vehicle for reaching the market, especially for housing. With an effective TA program, and local financing mobilized by the guarantee, a good opportunity exists to build on and significantly augment the base of current EE project investment activities. In sum, the lack of familiarity with EE finance and the unique nature of EE project collateral security limit access to the levels of commercial debt which will be necessary in order to realize the promise of the EE market. CEEF provides an important and timely response at this early stage of the market's development.

#### **Economic Considerations**

The Czech economy began to revive in 2000, ending the severe recession that began in 1997 and featured negative economic growth in 1998 and 1999. Inflation is under control, and GDP growth has recovered, resuming positive values in 2000 and reaching 3.6% in 2001, where it is expected to remain in 2002. Domestic demand is robust, compensating for the slowdown in the EU, which absorbs two-thirds of Czech exports. Both domestic and foreign investment have risen because of an improved business environment; strong inflows of FDI, expected to be US\$10.5 billion in 2002-03, are covering much of the country's external financing requirements.

The large fiscal deficit, however, threatens macroeconomic stability. Without including privatization receipts, the deficit was more than 10% of GDP in 2001 and is expected to rise to more than 11% in 2002. The main sources of the deficit are structural—namely the growing costs of the social welfare system—which the government has been slow to address. If the fiscal deficit is not contained, the Czech National Bank may be forced to raise interest rates substantially to keep inflation within its

targeted range (inflation targeting has been the main pillar of monetary policy since early 1998). This could crowd out private investment, and encourage a sharper real appreciation of the koruna (which gained 9.7% against the euro and 4.3% against the US dollar in 2001).

The recession in the Czech Republic has certainly ended, however the economy's fundamentals remain weak. A solid recovery will depend on the extent to which the structural problems that led to the recession are corrected. Recent progress has been made in the financial sector, with the privatization of Komerční banka, the last major state bank, and the pilot sale of non-performing loans from Konsolidacní banka (now Konsolidacní agentura). Konsolidacní agentura plans to sell off three new packages this year. In addition, the push for EU accession should lead to an increasingly stable and predictable legal system. Still, further progress in privatization, financial and corporate sector restructuring, and reform of the legal system will be needed to achieve more rapid, sustainable growth.

### **Energy Intensity of Economy**

Energy intensity in the Czech Republic fell dramatically during the last decade but is still 1.6 times the average of IEA Europe and 25% higher than Hungary.<sup>6</sup> Improving efficiency of energy use is a priority in government energy policy for macroeconomic, enterprise competitiveness and environmental reasons. EU accession commitments are also drivers for improving energy efficiency.

### **Energy Sector Liberalization & Energy Prices**

Energy Sector Reform. Electricity is mostly coal-generated (70%). Domestic energy production, including nuclear, provides 51% of total primary energy supply. Gas distribution is well developed, and almost all gas is imported, mostly from Russia and some recently from Norway. In its transition from a centrally planned economy to a market economy, the Czech Republic has thoroughly reformed its energy policies and regulatory framework and is in the midst of restructuring and partially privatizing its energy and power sectors. The country established a new energy regulatory office (ERO) in 2001 and adopted a schedule for opening its electricity and gas markets to competition. Privatization of gas utilities is complete. Privatization of electric distribution utilities has begun, with bidding and sale negotiations underway, but is not yet complete. The effective introduction of competition will depend on regulatory details still to be defined and the privatization of the state energy companies that still dominate the internal market. Oil and gas imports have been diversified and the Czech electricity grid has been connected to Western Europe. The electric sector is dominated by CEZ, the state-owned electricity generator; the transmission system has been corporatized as a 100% owned subsidiary of CEZ. The IPP industry has grown over the last decade and now accounts for approximately 29% of generation. Eight power distribution companies have been created with significant but still minority private sector ownership shares. Open retail access for power is being phased in through 2006 starting with the largest customers. State-owned Transgas owns and operates the gas transmission infrastructure. As with power, gas distribution companies

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<sup>6</sup> Tons of oil equivalent per thousand US\$ in GDP, at 1995 prices and purchasing power parities, for 1999: for CR, 0.30; for Hungary, 0.24; Western Europe, average, 0.18. Source: International Energy Agency, Energy Policies of IEA Countries - Czech Republic, 2001 Review, August, 2001.

have been partially privatized, though at least one is now majority owned by the private sector (Prague Gas by RWE). Energy Prices. Liquid fuel prices are market-determined. Electricity, gas and heat prices are set by the ERO; tariffs for these still include cross-subsidies between customer classes, benefiting the domestic sector where prices remain slightly below full cost recovery levels; these cross-subsidies are scheduled to be phased out in the next one to three years, a necessary precondition for completing privatization of electricity and gas companies. Time-of-use power tariffs do not yet exist.

Government Policies and Programs. While CR energy policy has focused on energy sector restructuring, improving energy efficiency is a priority for the country's energy policy to capture its environmental, macro-economic and enterprise competitiveness benefits and to alleviate the effects of planned energy price increases. The Czech Energy Agency (CEA) is responsible for implementing EE policy, but "...needs adequate resources to be effective".<sup>7</sup> A core EE program of the CEA operating since 1996 provides grant funding for energy audits and project development and then grants equal to 15-40% of project costs with a maximum of 5-10 million CZK (US\$140,000-280,000); grant recipients must mobilize the balance of financing, thus representing a need for a complementary commercial finance program. The annual budget for the program has declined from 325 million CZK (about \$10 million) in 1999 to 60 million KC (less than \$2 million) estimated for 2003; capital grants have fallen significantly but the number of energy audits being supported has increased. The Energy Act of January 2001 includes mandates that all commercial/industrial end-users with annual consumption greater than 35,000 GJ and all municipalities with consumption greater than 1,500 GJ prepare energy audits of their facilities. The second EE finance program worthy of note, is an EU-Phare below market interest rate loan program operated since 1999 by Ceskoslovenska Obchodni Bank (CSOB); its resources are limited (5 million Euro) and demand has far exceeded this amount; this program has contributed to significantly CSOB's experience and interest in EE finance.

### **Capacities of the EE/ESCO Industry**

CR has a number of companies operating as ESCOs, both domestic and international in origin, including: MVV/EPS, Harpen/RWE, Honeywell, Johnson Controls, ABB, Ahlstrom, Komterm, Stredisko pro Usporg Energie (SUE), Valiant, Dalkia, Danfoss, Siemens Landis & Staefa, EVC, Moopex, and EFIS. Relationships with these and other EE companies have begun to be developed in appraisal to generate a pipeline of projects for financing. Some firms are capable of assuming project performance risks. A sufficient base of ESCO projects have been implemented to establish and create some growing end-user familiarity with ESCO business models. There are growing numbers of public sector procurements for EE projects. Capacities to do EE audits have been supported by the CEA audit grant program, which has also established a network of EE auditing centers around the country. Project engineering, equipment procurement/ and supply, and installation capacities exist locally. Programs to build project development and finance capacities of ESCO companies and to educate end-users are needed.

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<sup>7</sup> International Energy Agency, Energy Policies of IEA Countries - Czech Republic, 2001 Review, August, 2001.

Access to finance. A few ESCO companies are well-capitalized (e.g., MVV and Harpen) while most others suffer from lack of readily available financing, especially for smaller projects. Lack of readily available and attractive financing for EE projects reflects relative lack of experience of FIs in this field. Credit risk barriers are inherent to the finance market at present which result in unwillingness to lend by FIs or imposition of high collateral requirements which potential borrowers find too onerous to be attractive. Further, EE/ESCO companies often need assistance in structuring projects for financing.

### **Energy Efficiency Market & Project Opportunities**

Economics of EE investments. EE project economics are not as strong as in other countries but are still reasonable, with simple paybacks cited in the lighting area of 3-4 years, in motors of 4-5 years, in thermo-modernization in 5-7 years, and in thermal plants and cogeneration in 4-7 years (for equipment with useful lives of easily 15-20 years). Energy prices have risen for both for power and for thermal energy, and have a bit further to rise to reach full cost-recovery levels; these trends improve the economics of EE projects. There remains a substantial backlog of investment and equipment replacement/upgrade need in primary energy systems such as gas thermal plants and motors, a condition which is region-wide.

Primary EE Market Sectors. Main targets for EE project opportunities in Czech Republic, as in other countries, are in: district heating, industry and SMEs, municipal and public sector, and multi-family housing. Among major market drivers for EE projects are: need to replace aged energy systems, opportunities for cost-effective EE projects, government mandated energy audit programs, liberalization of energy prices resulting in necessity of energy savings, favorable developments of interest rates and increasing competition in banking sector, environmental legislation targeting reduction of emissions, and on-going restructuring of corporate sector aiming to increase its cost competitiveness.

District heating systems provide heat to 30% of CR households. Significant investment, construction and privatization activity is underway in this sector. Most systems are municipally owned, some are privatized, and many have undertaken service and investment contracts with private sector ESCO companies. As in other Central European countries, a large investment backlog exists to upgrade basic energy plants in this sector; this includes the central plant, heat substations and heat distribution as well as in metering and controls for end-use. Thus, district heating projects are expected to represent a major and near-term need for financing supported by the IFC guarantee. Industrial and SME projects also typically start with investment in new thermal/heat plants; several projects have been identified, e.g., with textiles and breweries. Municipal sector projects -- for local government buildings, hospitals and schools -- are being stimulated by the mandated energy audit program, by cost savings opportunities and need to address replacement and deferred maintenance investment needs.

Multi-family housing offers good opportunities for EE investment ranging from approximately \$600 per flat for controls, metering and weather-stripping (with simple paybacks in the 2-3 year range) to more comprehensive building envelop improvements, with average investment of 300-400,000 KC per flat (~\$10,000+) and simple payback periods in the 10+ year range. Multi-family housing is in

the midst of ownership restructuring, with ownership typically set in one of three ways: housing cooperative ownership, municipal ownership, and individual household ownership represented by a housing association. Cooperative ownership is the most common; cooperatives can undertake loans and offer mortgages as security. Some lending experience exists in this sector. This sector is promising for EE investments but will require technical assistance to develop effective ways to market and legally structure transactions. Approaching this sector through the district heating companies will be explored.

Specific Project Opportunities and Partners. In appraisal, an initial deal pipeline and relationships with companies and partners to generate deal flow have been developed; several examples are provided below, which support staff assessment that sufficient demand for EE project financing exists to justify the guarantee program; several of these opportunities will require technical assistance activities to develop effectively.

a) Czech Energy Agency. CEA is interested in working with IFC to organize a commercial finance program to complement their EE project activities. Next steps for developing this relationship -- including an assessment of the CEA project and audit pipeline, a survey of end-users for their interest in commercial project finance, and project development assistance for selected end-users -- have been agreed to with CEA and is being undertaken by SEVEN (NGO EE center) this summer.

b) Prague Gas. Prague Gas (PG) company started January 2002 a special department to develop gas-fired thermal projects for their medium and large size customers. PG is paying for audits for their customers; has done 40 audits and has 4 projects under development ranging in size up to 20-30 M KC (< \$1 million). PG provides turnkey implementation of the projects and on-going services. Project financing is to come from FIs lending direct to end-users, representing a good application for the guarantee. PG is very interested in TA on project finance and contract structuring and setting up project finance facilities. PG is majority owned by RWE Gas. Relationships with other key decision makers within PG are needed to be developed in the process of getting a mandate for TA financial and business advisory work.

c) Harpen. Harpen, a subsidiary of RWE, has 14 DH projects under ownership/operation or long-term service contract. Harpen is well-capitalized (from EBRD and its parent) and does not need assistance in financing their DH projects but expressed very strong interest in working with IFC/CEEF to organize EE project financing for housing served by their DH systems. Total demand for financing could be in the 100-200 million KC (\$3-6 million) range fairly readily.

d) Prague DH. Prague DH is interested (as per the head of marketing and customer service) in a program to finance EE projects for housing coops, perhaps using a utility super-ESCO model. Utility-based programs can be a powerful vehicle and will be explored further.

e) EFIS, MVV, Moopex and Kotlemt, all EE companies interviewed in appraisal, have each identified projects under development which require financing in the range of 2-100 million KC (\$60,000 to \$3 million) per project.

*Technical Assistance Program: Partners, Needs and Opportunities.* The EE NGO SEVEN is expected to be a primary partner for implementing and managing the TA program in CR. SEVEN's skills in EE engineering, project development, EE market analysis/promotion and program management will be supplemented by local and international consultants with EE project finance and business development expertise, some of which already possesses.

## **Slovakia**

### **EE Market Overview**

#### **Summary Overview**

Slovakia has moved over the last two years to reform, restructure and privatize its energy sector; these movements lag behind Czech Republic but are now proceeding aggressively. A new independent regulator (URSO) was established in 2001 and is establishing a new transparent price regulation system. Electricity prices are close to full cost recovery levels, but some cross-subsidies remain between ratepayer classes. Gas distribution is well developed but gas prices remain partially subsidized and contain cross-subsidies. The new energy tariffs are expected to complete the phase out of cross-subsidies by 2004. While EE policy development is well-advanced, not many EE finance programs appear to be underway. EE project economics are sufficiently strong to make projects commercially viable, especially in the area of controls and metering, lighting, and central plant replacements. Major EE market drivers include: need to replace aged energy systems, opportunities for cost-effective EE projects, and environmental legislation targeting reduction of emissions. There are several domestic and international companies offering turnkey EE projects and ESCO-type services. Growth of the EE market is constrained by lack of experience with financing EE projects by financing institutions. Overall, there appears to be a healthy base of businesses active in the market, some familiarity with ESCO business models and a reasonable deal flow sufficient to generate demand for the IFC guarantee. Over one dozen projects were identified in appraisal -- for district heating systems, multi-family housing, hospitals, SMEs/industry and government/municipal buildings -- ranging in size from \$50,000 to \$6 million with many in the \$1-3 million range. Technical assistance is needed on FI and ESCO capacity building and project development. Quality TA program partners have been identified with skills in EE engineering, project identification and development, EE market analysis/promotion and program management. In sum, the lack of familiarity with EE finance and the unique nature of EE project collateral security limit access to the levels of commercial debt which will be necessary in order to realize the promise of the EE market. CEEF provides an important and timely response at this early stage of the market's development.

#### **Economic Considerations**

Economic growth in Slovakia has risen continually since 1999, when it registered at only 1.9% owing to the effects of the Russian crisis. GDP growth reached 3.1% in 2001 and is estimated at 3.4% in 2002, suggesting that Slovakia is beginning to reap the benefits of sound fiscal and monetary policies and sustained microeconomic restructuring. Domestic demand has been driving growth, as the slowdown in the EU has hurt exports. The current account deficit reached 9% of GDP in 2001, and is expected to be 7% in 2002. FDI, which has been strong in the past two years, should continue

to be so, however, which will relieve downward pressure on the koruna. Lax fiscal policy continues to be the greatest threat to macroeconomic instability, particularly with the upcoming elections in 2002. High unemployment rates, nearly 20% in 2001, are also a serious concern.

Admission to the OECD and commitment to EU accession are expected to pressure for continued structural reforms, despite political in-fighting and corruption throughout the bureaucracy. Slovakia has closed 22 chapters of the *acquis*, and the European Commission's most recent assessment of the country cites that it is a "functioning market economy," although in need of further reform in the legal, financial and enterprise sectors.

### **Energy Intensity of Economy**

Energy intensity in Slovakia is substantially higher than in the EU countries due to lower productivity, high share of industry in GDP and inherited industry structure. In industry, energy intensity is generally 3 to 5 times higher than that in EU countries. In the residential sector, the energy consumption is on average 25% lower than in the EU average, which is mainly due to the households' low income and their difficulties in dedicating a large part of their budget to heating bills. Measures to improve the district heating system operations are also necessary to avoid further disconnection from users and an additional shift to other means of heating.

### **Energy Sector Restructuring & Energy Prices**

Energy Sector Reform. Slovakia has moved over the last two years to reform, restructure and privatize its energy sector, gas and power industries; these movements lag behind Czech Republic but are nonetheless now proceeding aggressively. Bidding and negotiations are underway now to privatize three electric distribution companies: west, central and east. The state-owned electricity companies are also spinning off and privatizing their district heating company systems. The government has specified deadlines for gradual market open retail access for electricity (from 1/2002 to 1/2005) and gas (from 7/2002 to 1/2008). The privatization of 49% of the Slovak Gas Industry is scheduled for mid-2002. A new independent regulator (URSO) was established in 2001 and is in the midst of establishing new transparent price regulation system.

Energy Prices. Regulated prices have just recently been promulgated and will come into effect January 2003. Demand-side management is mentioned but not yet operationally a part of the new regulatory framework. Electricity prices appear on the whole to be at full cost recovery levels but some cross-subsidies between ratepayer classes still exist; new tariffs will complete the phase-out of these cross-subsidies by 2004. Regarding cogeneration, a regulatory framework for power sales to electric utilities from IPPs has not yet been established. Buyback rates currently are quoted at 1.4 SKK (3.1 US cents) per kwh whereas average retail prices for electricity are approximately 3.5 SKK (7.7 US cents) per kwh; thus, most cogen projects appear to be sized for on-site thermal host's electric loads.

Gas prices remain partially subsidized. Average import cost for gas is 6 SKK per cubic meter, whereas the average retail cost is 5 SKK per cubic meter, the difference covered by State subsidy. There also remains still a lower gas tariff for households compared to industry (which includes DH)

so there is some incentive for households to disconnect from DH systems in the gas tariff; this cross-subsidy is being eliminated and will be gone by January, 2004. Gas distribution is well developed and gas is widely available in Slovakia, a result of historic gas supply relationship with the former USSR. Slovakia is a transit country for a large portion of Russian gas flowing to Western Europe. Slovakia imports virtually all (>95%) of its natural gas. Most DH systems are fueled by gas. Hence there is high sensitivity to raise gas prices, and politically it is difficult to raise heat prices.

For heat, the maximum tariff is set country wide; the current cap is 450 SKK per GJ. This rate is calculated on a cost-plus basis, sufficient for most systems to cover all costs plus finance some capital investments.

However, the rate is a single rate per GJ, which means that revenues are uncertain as heat sales are so weather dependent, resulting in some uncertainty and disincentive to make capital investment. URSO, the new regulatory body, has publicly stated intentions to switch tariff regulation to a two part pricing formula, allowing for fixed costs and variable costs. State subsidies to households for heat have been cut back but still remain.

Government Policies and Programs. New energy legislation is being driven by the needs of the EU accession process. The Energy Act no. 70/1998 follows the most important EU directives 96/92/EC and 98/30/EC. An Energy Policy document was approved in September 1999 and among other strategic goals includes a reduction of “ the energy intensity down to the level in the EU member countries.” Other EE policies are being put into place; the World Bank is currently funding preparation of a National Energy Efficiency Strategy (NEES) being prepared by Energy Centre Bratislava in conjunction with the Slovak Energy Agency; this report is in draft stage. A new act on energy efficiency is being developed by the Ministry of Economy and will be informed by the NEES document. The Ministry of Environment is establishing a progressive carbon emissions trading framework.

While EE policy development is well-advanced, not many EE finance programs appear to be underway or under development. A range of international EE programs have been undertaken -- mostly EU programs such as ISPA, SAPARD, PHARE, SYNERGY, JOULE-THERMIE, SAVE II, and ALTENER and bilateral cooperation with DEPA and SENTER -- mainly resulting in studies and audits. There is a State Fund for Housing that can be accessed for grants for housing reconstructions. There has been a small national Energy Savings Fund providing interest rate subsidies on loans; annual budget of 30-42 million SKK (<\$1 million) per year. It appears that government policy will rely on and encourage, mainly through reform of energy prices, commercial market actors to initiate EE projects and investments.

### **Energy Efficiency/ESCO Industry Capability**

There are several companies in Slovakia offering ESCO-type services such as Honeywell (doing turnkey projects in DH and industrial sectors), Johnson Controls (doing turnkey projects in DH and industrial sectors), Intech (ESCO doing small cogen and thermal projects), Dalkia (Vivendi sub owns/operates 6 DH systems), Komterm (Slovak sub of CR firm, own/op. & service thermal plants for industry & DH), Siemens Landis & Staefa ESCO (doing ESCO projects for DH, hospitals, industry) and EETek (based in Budapest, developing two projects in Slovakia, industry and DH).

There are many engineering, service and contracting companies offering EE products and services representing virtually all major manufacturers established in the international markets. Growth of the EE market is constrained by lack of experience with financing EE projects by providers, end-users, and financing institutions. Overall, there appears to be a healthy base of businesses active in the market, some familiarity with ESCO and performance contract business models and a reasonable deal flow sufficient to generate a pipeline of projects to be supported by the IFC guarantee. Further technical assistance is needed on both ESCO/EE business capacity building and project development.

### **Energy Efficiency Market & Project Opportunities**

Economics of EE investments. EE project economics are not as strong as in other countries but are still reasonable, with simple paybacks cited for controls and metering of 2-3 years, in lighting of 3-4 years, in motors of 4-5 years, in thermal plants and cogeneration in 4-7 years (for equipment with useful lives of easily 15-20 years) and in thermo-modernization in 7-12 years. There remains a substantial backlog of

investment and equipment replacement/upgrade need in primary energy systems such as gas thermal plants and motors, a condition which is region-wide.

Primary EE Market Sectors. Main targets for EE project opportunities in Slovakia, as in other CEEF countries, are in: district heating, industry and SMEs, municipal and public sector, and multi-family housing. FIs have been identified with interest and at least some experience lending in all these sectors. Among major market drivers for EE projects are: need to replace aged energy systems, opportunities for cost-effective EE projects, increasing energy prices resulting in necessity of energy savings, environmental legislation targeting reduction of emissions, and on-going restructuring of corporate sector aiming to increase its cost competitiveness.

District Heating Market. The district heating market (DH) is most important in Slovakia. Over 60% of all housing units are served by DH systems. Most DH systems have been corporatized and a number privatized. Historically, DH systems were often centered on a local industry which would install thermal plants sufficient to serve both its process energy needs and the local town heating needs. In many cases, these industries have been shut down, or they have sought to divest themselves of responsibility for the DH heat needs, so the towns must either take over the industry's thermal plant or install new thermal plants. Many central plant upgrade and controls and heat substation projects have paybacks in the 4-5 year range; heat pipe distribution systems are aged and rarely insulated, but replacements have long 10-15 year payback periods. There appears to be a good flow of public tenders (six recent ones identified in appraisal) being issued for DH project upgrades, some calling for the contractor to offer financing, own/operate or concession contract structures.

Housing Market. There appears to remain opportunity for the most basic EE investments in multi-family housing, including need for thermostatic reduction valves (TRVs) (maybe 50% market penetration) and meters (maybe only 25% market penetration); heat distribution system upgrades and building envelop improvements are widely needed. Some financing to reconstruct existing multi-family housing is being done by some banks. Building societies (cooperatives) can take loans and can offer real estate as security. There is some transition underway in ownership patterns, where co-ops are being converted to individual ownership of units, and city-owned housing is also having its

ownership restructured. There are 960,000 households in the whole country and 180-190 housing coops in the country, some representing many thousands of flats. As in Czech Republic, cooperation with DH companies may be a means to deliver EE projects and financing to the multi-family housing sectors.

Projects Identified. A number of specific pipeline projects (over one dozen) were identified in appraisal, many for district heating and thermal systems, multi-family housing, hospitals, SMEs/industry and government/municipal buildings. They range in capital cost from \$50,000 to \$6 million with many in the \$1-3 million range. UNDP/GEF is starting a public lighting project development and finance technical assistance program which may generate projects in this market.

***Technical Assistance Program: Partners, Needs and Opportunities.*** The EE NGO Energy Centre Bratislava is a candidate to be a partner for implementing and managing the TA program and has skills in EE engineering, EE market analysis/promotion and program management. The Slovak Energy Agency also has skills in project identification, project engineering and emissions reductions. Other consulting engineers (Power Research Institution, H&W Service) have been contacted and their capabilities assessed. All of these organizations -- SEA, H&W, ECB and PRI -- can assist in project identification. Additional local and international consultants with EE project finance and business development expertise will be needed. A TA agenda with FIs has only been mentioned; we expect FIs to need considerable assistance in developing EE finance marketing, origination and transaction structuring. The pipeline of EE investment projects is sufficiently well developed to present real current opportunities to participating FIs. TA activities to develop further specific EE finance products, e.g., for multi-family housing, will be needed.

## ESTONIA EE MARKET OVERVIEW

### Summary Overview

A relatively well-developed entrepreneurial culture and fairly well-advanced energy sector liberalization process creates an environment in which the Estonian EE market is poised to develop rapidly. The combined TA/credit enhancement offered under CEEF could provide an important boost to its development. EU accession will drive the further improvement of EE project economics as the country moves to reduce its heavy use of dirty domestic oil shale with continued upward pressure on energy prices (which have recently increased dramatically). The housing sector presents immediate opportunities not available in the other Baltic countries due to the advanced state of privatization, and the relative clarity of laws and regulations affecting issues of common area decision-making, ownership, and property assignments for credit security. In addition, an extraordinarily capable, interested, and well-positioned association of housing cooperatives will provide an important partner in developing a pipeline of EE investment projects in the sector. The heating sector also represents a great potential source of dealflow, with privatization of the sector, a decrepit infrastructure, key international players and motivated local firms active in the market, and compelling economics creating an attractive climate for substantial investment. The lack of familiarity with EE finance and the unique nature of EE project collateral security limit access to the levels of commercial debt which will be necessary in order to realize the promise of the EE market. CEEF provides an important and timely response at this early stage of the market's development.

### Economic Considerations

Estonia's economic recovery from negative recorded growth rates in 1999 is well under way, with the economy growing by 6.9% in 2000 and 4.7% in 2001. Growth remained resilient, despite the economic slowdown in the EU and the downturn in the electronics assembly industry. Strong domestic demand, fueled by strong investment and rising real wages, is largely responsible. Estonia is the most advanced of the three Baltic countries, with higher per capita income, a more developed financial sector, and a more diversified economic structure. The EIU recently rated Estonia's business environment as the best in the region.

Estonia is expected to be at the forefront of EU accession, having made good progress on harmonizing its legislation with that of the EU. However, it has closed talks on only 20 of the 29 chapters of the *acquis*. Energy is proving to be a difficult chapter, given Estonia's reliance on highly polluting oil shale, the cancellation of the electricity sector's privatization, and lack of consensus on how to finance the modernization of the sector.

### Energy Intensity of Economy

Estonia's energy intensity is one of the lowest among the Central European countries (and lowest among the CEEF countries) at 0.019 (quadrillion BTUs per US\$1 billion GDP), but is still 2.4 times the EU average. This differential is an important element of Estonia's EU accession challenge, as it represents a key indicator of a range of economic efficiency, competitiveness and environmental dimensions of the EU harmonization process.

## **Energy Sector Overview, Liberalization and Energy Prices**

The Estonian Government has given a high priority to energy sector reform. In 2001, a phased electricity sector liberalization began implementation which is intended to facilitate a smooth EU accession process. Presently, all large (>40 GWh) consumer can select their electricity provider. This liberalization is scheduled to extend to all consumers during 2002. Power production has been privatized and the substantial “Estlink” project is scheduled to interconnect the Estonian electricity grid with the Western Europe grid by mid-2004. The Estonian electric utility Eesti Energia remains the dominant force in the electricity sector, despite privatization of the generation piece.

95% of Estonian electricity generation is from oil shale-fired generating facilities. Oil shale is an abundant (Estonian) domestic energy resource with an extremely high content of fly ash and other pollutants. Oil shale also generates extraordinarily high levels of CO<sub>2</sub> (a prominent greenhouse gas). It accounts for 80% of all harmful emissions in Estonia – looking across sectors and energy types. Estonia is under heavy pressure from the EU to cut back significantly on oil shale production and use. This will be achieved through ambitious modernization projects in the electricity generation infrastructure undertaken as part of the privatization of those plants, as well as by improvements in the efficiency of the entire Estonian energy-using infrastructure – an undertaking which relies heavily upon the mobilization of private capital by the private sector to undertake cost-effective investments.

Estonia imports all of its natural gas for domestic consumption via a pipeline network from Russia. The country seeks to diversify by tapping Norwegian supplies in the future. While gas consumption fell dramatically along with all energy consumption in 1992 as the Soviet-era industrial sector collapsed, the level of gas consumption has since increased from 21 to 35.3 Bcf /year. The former state-owned gas company (Eesti Gaas) has been fully privatized (1997). Natural gas represents 90% of the heating fuel used by the district heating sector in Estonia. The price of gas in the market has remained below European market prices due to traditionally lower prices charged for Russian gas related to the historical ties between the countries. However, recent indications from the Russians indicate that these prices will soon be increased to European market levels, with substantial impacts on the cost of heat provided through the district heating systems which extend across the municipal sector throughout Estonia.

Energy prices are largely unsubsidized in Estonia. Current Russian gas prices enable lower prices in the heating sector, but government subsidies have largely been eliminated across all sectors. Cross-subsidization in the heating sector has ceased in order to stem the tide of defections from the district heating system by industrials. In the electricity sector, a 25% increase in tariffs across all user classes was implemented in April 2002 in order to finance new investment in the electricity sector, both for extending the grid for the EU interconnect and in order to reduce SO<sub>2</sub> emissions through fuel switching and plant modernization. This has changed the price profile of historically low electricity rates in Estonia.

## **Capacities of EE/ESCO Industry**

Estonia presents perhaps the most entrepreneurial business culture of the three Baltic states. This manifests itself in a group of EE project development companies actively developing projects in the key, municipal, district heating, industrial and housing sectors. In addition, a very rapidly growing

commercial building sector in the key Estonian cities presents opportunities in boiler, building controls and lighting projects.

In addition to a contingent of local Estonian companies with niche focuses in specific sectors, several international companies are active in the market. These firms are primarily focused on the electric, gas, and heating utility sectors where they are active in the utility privatization opportunities. They tend to be well-capitalized and aggressive. They are capable of undertaking some of the more capital-intensive, larger modernization projects involving boiler plants, cogeneration, and district heating system infrastructure and controls. In many cases their interest in EE investment is driven as much by the economics of these projects as by the need to ensure customer retention in the face of declining district heating system subscriptions.

Another important class of EE companies from which IFC anticipates dealflow are the newly privatized housing maintenance companies which provide diverse housing management and maintenance services on a competitive basis. These services were previously provided to the housing sector by state monopolies. The privatization of the sector opens up opportunities for energy services provision, including EE upgrades and modernization.

### **Economics of EE investment**

The April 2002 25% increase in electricity tariffs across all rate classes has yielded improved EE investment returns, as well as increasing focus on EE investment opportunities by all classes of users – essentially expanding the market and increasing demand for EE services and products.

Eesti Energia's influence on government policy remains strong and the result is that cogenerators have not successfully been able to sell electricity back into the grid at commercially viable prices. However, cogeneration facilities sized to utilize all electricity generated on-site carry favorable economics at present electricity and gas prices.

Relatively low gas prices, coupled with mounting consumer dissatisfaction with district heating service, has created a vibrant market for gas boiler projects which enable the user to become independent of the district heating system. The economics of these investments are compelling. However, the result is damage to the viability of the district heating system, even as privatization of these systems create greater efficiencies in the sector. The implications for CEEF are two-fold:

- IFC will evaluate gas boiler projects to establish guidelines for which projects IFC/GEF should support in terms of environmental impact. Specifically, cogeneration projects will provide substantial net benefits, whereas gas boiler projects which take urban-based customers off of relatively efficient district heating systems (which are in turn fired by cogeneration) would provide net environmental costs – even though the customer's economic benefits in the short term are strong.
- Modernization of district heating systems will provide substantial dealflow – including larger projects -- over the life of the CEEF facility.

The Estonian industrial sector is expected to present an important source of dealflow for CEEF. In addition to a general focus within the sector on investment to enhance competitiveness in the EU context, the historically outdated production infrastructure presents opportunities for compelling EE investment returns. A Finnish study of the 65 largest industrial energy users found a formidable portfolio of short payback investment opportunities available, with cogeneration projects typically yielding 20% IRRs on 30% equity investments.

### **EE Project Opportunities and Partners**

Opportunities for cogeneration within district heating systems are actively being developed, as are industrial applications of cogeneration. These projects depend upon either direct sales to neighboring end-users (versus sales to Eesti Energia) or own-use of electricity by the cogenerator. While Eesti Energia is not supporting cogeneration with favorable buy-back rates, there appear to be no issues of providing back-up power from the grid to cogenerators. There are a number of project developers which install these systems and provide long-term service agreements; they will act as partners to the program generating dealflow.

District heating systems provide a wealth of EE project opportunities with compelling economics. The privatization of the Estonian systems – including both long-term lease/operate agreements and outright sales of the systems to private companies – creates a demand for private capital and a motivated class of investors. These new system operators face strong incentives to reduce operating costs on the systems. Within the systems, rapid payback opportunities exist in boiler systems, controls, pipes, and substations. In the Tallinn system for example, 60% of substations are old and only 40% have been renovated. These investments will be developed both through the district heating system operators (which own substations serving multiple clients) and through end-users (when the substation is situated at the customer's building). The project developers will include the district heating system operators, ESCOs focused on this sector, vendors which finance their substation installations, and housing maintenance organizations.

The privatization of housing maintenance organizations creates an important new class of project developers with incentives to invest in housing sector modernizations, and with the financing instruments necessary to execute home-owner-level loan amortizations (through the monthly fees they charge to coops.) The Estonian housing market is the most fully developed privatization effort in the Baltics, with 60% of all flats presently engaged in cooperative ownership structures which enable building modernization projects to be undertaken on a common ownership basis. The Estonian law is fairly well developed on common property ownership, and allow assignment of ownership rights as security. The group decision process is well-defined in the law and is liberal enough to allow decision-making to take place in a fairly rapid and efficient matter. As a result, many of the issues which constrain modernization investments and cooperative borrowing from banks in Latvia and Lithuania are not at issue in Estonia. Further, the Baltic Union of Housing Cooperatives stands as a strong and willing partner for IFC in the execution of CEEF. It promises to be an important aggregator of deals and facilitator of streamlined borrowing procedures which will enable development of investment in the market of 620,000 apartments which have been privatized over the past 3 years in Estonia.

The industrial sector has experienced a substantial shake-out characterized by widespread bankruptcies in 1992-2000. With privatization and rationalization largely settled out, industrial operators are concentrating on efficiency improvements increasingly. The substantial Estonian wood products industry presents tremendous opportunities for cost-effective EE investment. Besides straight EE projects, the waste-wood from the production process provides opportunities for on-site cogeneration facilities and replacement of oil shale boilers with essentially zero fuel cost and reduced emissions.

The municipal sector – including hospitals – also provides a substantial portfolio of investments with compelling economics. Public streetlighting is one promising element of the sector, although appraisal did not yield definitive information about the institutional issues of developing this sector. The challenge in general for CEEF in developing projects in municipally-owned facilities will be in structuring deals with private sector entities acting as project sponsors. The limited financing capacity of the ESCO industry in its current state brings into question whether IFC-eligible municipal investment projects will emerge through the program. The TA effort will focus in large part on capacity building for that group of active Estonian ESCOs with limited financial wherewithal.

## LATVIA EE MARKET OVERVIEW

### Summary Overview

The Latvian EE Market is the largest of the three Baltic States. The Government of Latvia's National Energy Program has identified financially viable end-use EE investment opportunities of \$1.6 billion. The IFC appraisal identified good project economics for cogeneration, where regulations mandate that the utility buy excess electricity generated by independent cogenerators at advantageous rates. In addition, relatively high electricity rates provide attractive economics for industrial sector projects with an electricity focus. This market presents great possibilities; CEEF's focus on FI-generated dealflow – supported by a strong TA program – shows promise as a vehicle for developing substantial industrial sector dealflow. The district heating sector presents substantial promise for EE projects, as well. The housing sector represents an untapped and immense potential. However, the privatization process is incomplete and therefore presents substantial issues for project finance and efficient marketing of EE projects due to complicated and time-consuming decision-making processes and the relative lack of cooperatively owned common space in privatized apartment buildings. The relatively undeveloped EE/ESCO industry in Latvia is expected to present challenges to the program at the early stages of operations. Until the TA program can build capacity among the group of technically proficient Latvian contractors and engineering firms, with a few exceptions Latvian ESCOs are not expected to generate substantial dealflow through aggressive marketing and innovative deal structuring efforts. However, these firms are well-suited to develop such capacity, and the Latvian market presents ripe opportunities for rapid development once they do. In the immediate term, dealflow is expected to come through strategic partnerships with housing cooperative associations, industry associations, the few active ESCO project developers, and by building on the industrial sector clients which comprise the portfolio of key customers for participating FIs. The lack of familiarity with EE finance and the unique nature of EE project collateral security limit access to the levels of commercial debt which will be necessary in order to realize the promise of the EE market. CEEF provides an important and timely response at this early stage of the market's development.

### Economic Considerations

Latvia has rebounded strongly from the effects of the 1998 crises, growing by 6.6% in 2000 and 7.6% in 2001. Growth has been broad-based, although the largest contributions came from manufacturing and services, which grew by 8.1% and 6.1%, respectively. The share of services in GDP now stands at more than 70%. Inflation has been brought under control following triple-digit rates in the early 1990s, and has now stabilized at less than 3% per year. The currency has also been stable, as the Central Bank has managed to keep the lat pegged to the SDR at a rate of SDR 1=LVL 0.7997 since 1994. The current account deficit remains high—at 9.4% of GDP in 2001—although it is largely covered by inflows of FDI.

Latvia's economic environment has been strengthening as a result of ongoing structural reforms and the harmonization of legislation with that of the EU. Latvia has closed 23 chapters of the acquis, although several of the most contentious chapters, including agriculture, remain. Moreover, several sectors of the economy remain weak, especially compared with EU standards. The level of financial

intermediation is low, as is the liquidity of the Riga Stock Exchange, and agriculture cannot meet EU standards without high levels of investment.

### **Energy intensity of economy**

As in the other CEEF countries, energy consumption per unit of GDP is high compared to developed countries. Latvia's energy intensity is 0.028 (quadrillion BTUs per US\$1 billion GDP), 3.5 times the EU average level. Energy intensity increased rapidly between 1991 and 1994 as GDP fell more rapidly than total energy consumption, but it has since been declining. Energy intensities of specific industries, e.g., food processing, are two to three times those of the EU average measured by energy input per unit of product output. This is an indicator of the competitive challenges Latvia will face as economic integration with the EU proceeds – and illustrates the importance of accelerated EE investment in Latvia from a developmental perspective.

#### **Energy Sector Overview, Liberalization and Energy Prices**

As part of the EU accession process, Latvian energy sector is undergoing a liberalization process. It is characterized by a structural framework of pricing and regulation intended to promote competition. The disaggregation of electricity generation, transmission, and distribution is expected to follow. However, earlier plans to privatize Latvenergo – the state-owned electricity monopoly – have since been reversed.

Natural gas prices are set by government regulation and subsidized in the residential sector. In the electricity sector, residential sector cross subsidies from industrial customers were phased out in 1997. In order to finance construction of new electricity infrastructure investment, electricity tariffs are on a schedule of 9% annual increases over the 10 years beginning in 2000.

Latvia imports roughly 80% of its energy consumed. This includes all of the natural gas (from Russia) -- representing 25% of total energy consumed in Latvia, and all of the coal and oil. A substantial amount of electricity is imported from Lithuania and Estonia. Peat is an important local resource, as is hydroelectricity, which comprises 75% of domestic electricity generation. In an effort to develop cogenerated electricity, current tariff regulations require Latvenergo – the state monopoly electric utility – to purchase cogenerated electricity from independently operated facilities which are less than 4 MW. The requirement extends to plants up to 7MW for biogas and solid waste-fueled plants. This makes cogeneration an attractive investment option in the Latvian market.

40-50% of Latvian energy resources go for space heating and hot water for households and public building. Therefore, much of the focus of the Latvian National Energy Program is on improving the efficiency of the district heating systems. Extensive modernization programs are underway for the major systems of Daugavpils and Riga. Riga Siltums – the Riga district heating company – provides advantageous fees for customers who operate their own independent heating systems. The heating prices are set by the Energy Regulatory Board, and have not substantially changed since 1997. A substantial number of major heat users in central Riga have completely left the system. These include many of the important energy users who would be the target of the CEEF program.

### **Current economics of energy efficiency investments**

Relatively low cost natural gas, coupled with inefficient and higher cost heating and relatively more expensive electricity drives multiple EE opportunities in the heating sector, as well as providing attractive boiler system and cogeneration system economics. As in the other Baltic countries, these boiler installation projects need to be assessed for long-term viability (given projected gas cost increases over the medium term) and their net environmental impact as customers abandon the district heating system.

### **Capacity of EE/ESCO Industry**

The project developer and ESCO segment of the EE market remains at an early stage of development. This might limit the development of more complex projects, including those which require direct ESCO (equity) investment. In response to these conditions, the TA program will be designed to support the development of EE businesses. A core group of 3 operational ESCOs focused on a wide range of capital projects across sectors were identified during appraisal. The further development of these companies through the TA program, as well as support for a variety of project developers and contractors offering less comprehensive project development services, will be essential to CEEF's success in developing substantial dealflow commensurate with the economic potential of the Latvian market.

Generally, the character of the Latvian ESCO industry is less aggressive and entrepreneurial than its neighbors in Estonia and Lithuania, where the cultural transition to a market economy is more advanced. The local arm of the Dutch project development company ESSENT (Baltic), whose primary focus is the municipal sector, is in the process of a management buyout by the Latvian principals. ESSENT figures to be an important source of deals both in Latvia and the in other Baltic states. As ESSENT management structures its new capital foundation, the firm will be a key focus of the Latvian TA program. One important potential source of deal origination lies with Latvenergo -- the highly profitable publicly-owned electric utility monopoly -- which has contacted IFC through the IFC/GEF Efficient Lighting Initiative program team to request support in its efforts to establish a diversified ESCO operation as a subsidiary of its core utility business. However, a preliminary meeting with the new Latvenergo subsidiary's management indicated that the state monopoly culture dominates the new company, thus greatly limiting its ability to aggressively develop the market in the short term.

Despite the limited ESCO industry capacity to develop and capitalize deals, the FIs confirmed great potential for EE-related lending in Latvia, mostly directly related to their existing relationships with end-users. The strong technical capacity of the EE/ESCO industry is fully capable of designing and implementing projects originated by industrial managers and owners, or by associations of housing cooperatives and other well-positioned project promotion and deal aggregation agents. These entities, as well as the FIs with a substantial portfolio of industrial clients will serve as key partners and marketing affiliates of the CEEF program, and will thus be a focal point of the TA program.

### **EE Market and Sectoral Opportunities**

Housing. There are 53 million m<sup>2</sup> of housing in Latvia, of which approximately 1/3 has been built before the First World War, and 1/3 after 1958 from pre-fabricated panels. More than 90% of the

buildings do not correspond to modern insulation parameters, and to improve the situation an estimated investment of \$50-100 US\$/m<sup>2</sup> is required. Renovation of the pre-fabricated buildings is most urgent, and the total cost is estimated close to \$900 million, with EE savings of \$120 million per year. In general, paybacks for building envelope improvements such as window improvements/replacements are between 2 to 25 years, including: 3 to 5 years for heating systems; 10-12 years for insulation of heating systems pipes; and 4-9 years for insulation of attics/roofs.

Housing accounts for 57% of energy end use and has great potential for energy savings. Standards for thermal insulation have been in place since 1991, gas meters are now installed in most apartments, majority also have water meters, with individual heat meters for houses also increasing. Energy efficiency is a major concern as people spend about 17% of their income on housing maintenance and utility payments.

After a slow start about 70% of housing was privatized by the end of 2001, and only now people are starting to consider making EE improvements and renovating their apartments. Mortgage finance that sometimes allows also for housing improvement finance has been the fastest developing loan product in 2001. However, while privatization has moved forward quickly, unclear security interests and collateral assignment regulations and a very slow and difficult process for establishing cooperative ownership of common areas has greatly limited the market opportunities in the sector to date. These problems are widely recognized and policy modifications – led in part by World Bank – are underway to address them. A limited World Bank funded fund targeting low income households and energy efficiency could provide some movement in the sector. Its limited size will not impose a competitive problem for commercial FI lending as the market begins to move substantially forward.

Public Buildings. The only substantial EE activities that have been carried out in the public building sector is the World Bank project on schools. Inventory and analysis of energy consumption in 1150 schools was performed before financing of \$30 million was allocated. An assessment of energy audits in the hospital sector provided a typical project profile of roof insulation, secondary heating substation improvements and weather-stripping of windows at a cost of \$100,000 yielding energy savings of 40% and a simple payback of 4 years. More substantial investments involving boiler systems and cogeneration abound in the sector with typical paybacks in the 3-5 year range. The municipal sector – including municipally owned district heating systems and street lighting systems – remains a largely untapped market. One ESCO active in the industrial boiler market commented that municipalities have been a difficult market to tap because municipalities can access relatively cheap money (8.5%) and therefore are reluctant to accept ESCO-financed projects with imputed interest rates of greater than 12% (reflecting higher costs of capital in the commercial market) – even though the same municipalities do not undertake these projects with their own debt capital anyway.

Industry. Availability of wood and rapid development of the forestry sector form favorable conditions for utilization of wood in energy production. In the future, wood is expected to be one of the least expensive fuels for solid-fuel boiler plants of <8MW capacity. Wood-fired thermal plant projects that have been implemented in the food industry show good energy savings and paybacks below 3 years. Many EE investments have been identified in the food industry (dairies, bakeries, meat processing) with simple payback periods of 9 months to 2 years.

*Heating.* The majority of DH systems were installed 30-40 years ago and are approaching the limits of their technical life. Average annual efficiency of installed boilers does not exceed 85%. The average efficiency of boilers below 1MW is between 50-80%. Of the 3,500 boiler houses with capacities of 0.2-0.4MW, approximately 1,000 need replacements of old cast iron section boilers with corresponding fuel savings of 10-30%. Optimization of production capacities in plants with >4MW capacity could bring estimated fuel savings of 50%, improvements in fuel preparation and storage 15%, and installation of new burners 5-30%. Electric heating appliances manufactured in former USSR are typically oversized; replacement or modernization of these can reduce electricity consumption by 50-70%.

CHP plants generate district heat (1/4<sup>th</sup> of total energy consumption) with about 70% of households connected to DH systems. Municipalities have started investing in upgrades but investments are limited, as municipality's borrowing cannot exceed 25% of their annual turnover. Of the total heat energy sold, 3% is sold to industry, 76% to the housing sector and 21% to other consumers. Energy efficiency is a major concern as people spend about 17% of their income on housing maintenance and utility payments.

## LITHUANIA EE Market OVERVIEW

### Summary Overview

A relatively well-developed EE industry – featuring a competitive group of 10 companies actively pursuing EE projects in diverse market sectors and featuring domestically produced equipment, solid technical capacity and a strong entrepreneurial orientation – provides a good foundation from which to build CEEF dealflow. In an economy where the government estimates need for \$5 billion of investment in order to modernize the energy-using infrastructure, cost-effective EE project opportunities abound. The district heating system privatization process presents multiple opportunities which several companies are actively pursuing. Key partners from the non-profit sector are well-positioned to deliver market development services under the TA program and feed projects into the CEEF pipeline. The housing sector is presently problematic due to unfavorable regulatory framework and lack of guidelines which would facilitate rapid decision-making by cooperative owners as well as provide clear collateral security to enable borrowing. However, these issues are expected to be addressed through policy innovations currently underway, thus enabling substantial development of the sector in 2-3 years. The impending closure of the Ignalina nuclear generation facility (which dominates the Lithuanian electricity sector) creates upward pressure on electricity prices while creating urgency for government support of EE and cogeneration – thus further improving the already attractive economics for cogeneration and EE projects in the market. Perhaps of greatest importance, the Lithuanian FIs anticipate a very strong demand for the EE finance products they will offer through CEEF. They are anxious to work through the CEEF TA program to fully develop the immediate potential they see in the industrial sector, in particular. The lack of familiarity with EE finance and the unique nature of EE project collateral security limit access to the levels of commercial debt which will be necessary in order to realize the promise of the EE market. CEEF provides an important and timely response at this early stage of the market's development.

### Economic Considerations

Having recovered from the 1998 crisis with a further realignment of its trade and industry toward the West, Lithuania is growing at a fairly steady pace with little inflation. A slight slow-down is anticipated in 2002 due to a reduction in demand for Lithuania's exports in the European Union (EU) because of the downturn there. The Lithuanian economy is larger than that of Latvia or Estonia, but it has lagged behind them in GDP growth. The relatively slow pace of growth has pushed the average unemployment rate to 11.5% in 2000 and an estimated 12.5% in 2001. Lithuania's balance of trade gap is equivalent to about 10% of GDP and has led to a trebling of the ratio of external debt to GDP (now 35%) over the last six years.

The change in February of Lithuania's currency peg from the US Dollar to the Euro should help Lithuania's terms of trade by improving its competitiveness in European markets. Lithuania has made impressive gains recently in progress toward EU accession. By the end of 2001, the Government had closed 23 chapters of the *acquis* – as many as Latvia and more than Estonia or

Poland – but the most difficult chapters remain ahead. Lithuania is likely to succeed in its aspirations to join the EU in the first wave, but this first wave is likely to be delayed past 2004.

### **Energy Intensity of Economy**

Lithuania in 1999 had the highest energy intensity of all EU applicant countries. This is probably related to Lithuania seemingly having preserved a larger part of the energy intensive industries inherited from the former soviet regime than the other Baltic states. Lithuania's energy intensity is 0.028 (quadrillion BTUs per \$1 billion GDP), 3.5 times the EU average level. According to International Energy Agency, in 1999 Lithuania used 1.09 TPES per \$1,000 of GDP, while the average in OECD countries was 0.2. Industrial sector rationalization appears to have settled out after a period of substantial bankruptcies; the remaining (surviving) industrial firms are providing evidence of a new focus on operating efficiencies. The Lithuanian government's Energy Efficiency Development Program focuses on national needs – as compared with the market assessment that IFC undertook as a basis for the appraisal. The Lithuanian needs-based assessment indicates a total EE investment requirement of \$4.8 billion in order to meet national development objectives. This includes \$3.75 billion in investment requirements in the residential/housing sector and \$565 million in investment requirements for the industrial sector.

### **Energy Sector Overview, Liberalization and Energy Prices**

34% of energy consumed in Lithuania is by residential consumers, 28% by transport, and 23% by industry. The residential sector is the dominant user of heat consumption (fueled by gas, primarily), with the industry sector the most important user of electricity.

Lithuania is a net exporter of electricity, largely as a result of the massive production by the Ignalina nuclear plant, which is responsible for 70% of the country's electricity production (a higher level of nuclear dependence than any other country in the world). However, this picture will be short-lived as EU accession brings with it demands from the EU to shut down the two-unit Chernobyl-style generating station. At present, Unit 1 of Ignalina is scheduled for shut-down in January 2005 (although the plan to pay for the estimated \$.5 billion decommissioning is unsettled). The political process has yet to yield a schedule for closing down Unit 2 (at an estimated cost of \$1 billion) – the commitment to which is tied to negotiations for EU accession. The fate of Ignalina will clearly result in increased electricity prices and legislation to encourage EE and the need to develop alternative sources of power – including developing the potential applications of cogeneration.

Heavy reliance on Russian oil and gas supplies characterizes the non-electricity energy sectors. The gas distributor Lietuvos Dujos is scheduled for privatization. This process is intended to yield an expanded gas network, diversify the sources of gas supply, and integrate the network with Western Europe. The state monopoly electric company Lietuvos Energija (10% owned by Vattenfall) is scheduled to be split into five companies, with disaggregated generation, transmission, and distribution, and will subsequently be privatized.

Liberalization of the district heating system operation has begun in earnest nationally, beginning with the leasing this year of the Vilnius system to Dalkia – subsidiary of the French firm Vivendi. A

tender is presently active for the operation of the Kaunas system. Sixteen district heating systems have organized under the Lithuanian District Heating Association which seeks to facilitate modernization of the national district heating system infrastructure and strengthen the financial profile of the sector through improved services and reliable supply.

Prices of district heating increased sharply between 1993 and 1997 (>100%). Present prices range from \$.03/kWh in Vilnius to \$.05/kWh in smaller systems. This has resulted in steady losses of customers for the district heating systems. The new private operators are focused on improved efficiency of operation as well as customer services (including EE investment services) in an effort to retain and their build customer base. Electricity prices remain low due to the low operating costs of Ignalina (and implicit subsidized capital costs) – but face substantial increases in the future with the changing generation profile and decommissioning costs for Ignalina. Gas prices (from Russia) are low in the short term but political pressures in Russia indicate that these below-Western Europe market prices are not sustainable.

### **Economics of EE Investments**

The availability of Russian gas at below-Western Europe prices creates favorable economics for gas boiler investments enabling further departures from the district heating system. However, such investments might not prove favorable in the long term as gas prices rise and district heating system efficiencies improve with investment in infrastructure. In addition to the issues related to environmental impact discussed in the Estonia market overview, this creates a further risk in Lithuania where the credibility of the banking sector is low (but improving) following bank failures during the 1990's. Specifically, readily promoted bank loans for gas boiler retrofits whose long term economics are highly subject to gas prices (which are likely to increase) would undermine the gains banks have made in rebuilding consumer confidence.

Despite low electricity prices, ESCOs and engineering consultancies have shown abundant opportunities for attractive 2-5 year payback investment opportunities in the industrial sector including cogeneration, industrial controls, motors, and industrial process improvements. This is related to the largely inefficient and outdated industrial infrastructure which still predominates in the Lithuanian economy. The favorable cogeneration economics are also related to the low cost of gas and the availability of alternative fuel sources in, for example, the waste wood products industry. However, cogeneration projects must be sized for own-use or direct connection to the end-user of the electricity. Favorable utility buy-back rates for cogenerated electricity are not presently available, although regulatory reforms to encourage cogeneration as a partial replacement of nuclear generated electricity are likely in the near future.

The relatively higher prices of district heating creates an opportunity for district heating system EE investment. Attractive economics exist for boiler upgrades, cogeneration (where a readily accessible user of the electricity is available), controls, valves, and substation upgrades are prevalent and being actively developed by the industry. Cost-effective end-user building and industrial operations opportunities also abound due to the comparatively high cost of heat. Presently, residential sector heating enjoys an 18% price advantage due to an exemption from VAT. However, this exemption is expected to be removed in the short term. This should create an immediate boost to EE investment, as well as a surge in interest in gas-fired boilers.

### **Capacities of the EE/ESCO Industry**

The Lithuanian market consists of a group of approximately 10 active local companies with operations across the country who focus on project development in a variety of sectors, including hospitals, industry, municipal, district heating, housing, and institutional sectors. There is an active local industry manufacturing and installing district heating substations, and another which manufactures and installs windows. In addition, there also exists a strong engineering consultancy community featuring well established technical capacity.

In addition, several Western European and regional international firms focus on larger projects in the Lithuanian market. A major focus of this group of companies is the district heating sector, where privatized operations have created opportunities for well-capitalized international players able to invest in modernizations.

Meetings during appraisal indicated a strong interest among ESCOs to engage IFC TA support for building expanded project finance capacities among the ESCOs. A strong entrepreneurial orientation and proven technical capabilities are apparent among these deal-generating agents of the market, but they typically face project financing limitations -- both in terms of their project finance expertise and their capacity to capitalize multiple projects.

### **Energy Efficiency Market and Project Opportunities**

Favorable economics and the impending closing of the Ignalina nuclear station is driving the development and aggressive marketing by ESCOs of cogeneration projects in the district heating and industrial sectors. These projects are sized for full use of the electricity generated on-site.

Although the need and technical potential for savings in the housing sector are substantial, and the fundamental economics of those investments are attractive, the prospects for substantial dealflow in the housing sector are limited – at least during the first two years of the CEEF program. While special EU and World Bank funded EE programs have targeted the housing, municipal, and school sectors – their impact has been limited. These sectors remain largely undeveloped due largely to institutional and structural issues. The exception might be the hospital sector where several ESCOs are finding success developing EE projects on the strength of hospital management able to operate independently of the bureaucratic municipal management; the economics of EE projects (including cogeneration) present very attractive payback potential.

The district heating retrofit market is quite active, with boiler retrofit, cogeneration, and substation projects yielding favorable economics and private system operators motivated to develop efficiency improvements in order to increase operating margins and stimulate customer retention. The Lithuanian district heating system is among the most developed in all of Europe in terms of coverage. However, the largely neglected infrastructure presents multiple opportunities for investment. The extensive network of district heating boiler plants also provides a substantial portfolio of potential cogeneration projects as regulations to encourage the technology come into play to facilitate replacement of Ignalina's capacity. Several ESCOs are actively marketing new lines of packaged cogeneration products in anticipation of this eventuality and in response to the present favorable economics.

The industrial sector presents a strong source of dealflow from the perspective of the banks. They view a substantial pipeline (>\$50 million in loans anticipated in the short term by one bank) from their existing clients seeking to finance plant modernization projects with a strong EE component. The TA program will be used, in part, to assist the banks in assessing the technical risk of such loans, as well as to disaggregate the EE elements of these modernizations for the purposes of appropriately apportioning the eligible portion of the loan amount subject to the guarantee. The ESCOs interviewed anticipate a further strengthening of industrial sector EE investment over the next two years as Lithuanian industry moves beyond a period of multiple bankruptcies and consolidation and the surviving private firms intensify their investment in order to strengthen their competitiveness in the context of the EU market.

The uncertainty of the anticipated dealflow (despite the availability of attractive investments and a capable and active ESCO industry) remains a risk. The recent history of readily-available donor financing in the form of grants and subsidized interest rates for EE and other environmentally beneficial projects has potentially softened the market. Several promising EE projects identified during appraisal remain undeveloped in anticipation of Danish or other EU-sourced financing provided on soft terms. In each case the sponsor was not seeking commercial financing as a first resort. This situation is changing as such resources are no longer readily available, and as commercial FIs become more aggressive in marketing new products into the market. However, the residual cultural impacts of this legacy of free money could constrain an otherwise robust market potential, at least in the short term.

#### EE Project Opportunities and Partners

While the housing sector presents short-term institutional issues which constrain direct bank lending because of uncertain security and collateral profiles, limited expansion of cooperatives through the housing stock, and difficult decision-making practices in coops, a new housing law (January 2002) promises to provide a boost to housing sector EE lending. Specifically, it designates a process for placing the substantial bulk of houses not presently under Coop/Association ownership designation under the management of a selected administrator (or management company), which will be in position to facilitate investment programs. This – and the privatization of housing management companies – presents a potential for developing streamlined lending practices for banks and marketing efforts by ESCOs. The CEEF TA program will seek to develop this opportunity.

The private district heating operators will be important partners for the program in developing and delivering finance packages for EE upgrades on their customers' side of the meter, as well as in undertaking cogeneration, boiler upgrades, and substation investments within the system. They are motivated and well-positioned to execute large-scale EE promotion efforts. The CEEF TA program represents an important tool for leveraging further efforts by these companies as they seek to retain their district heating clientele and maximize system efficiencies.

The partner FIs represent the most important entrée to the industrial sector for CEEF. TA support which is tailored to each FI's strategy and client portfolio, and enables the FIs to develop and market specialized products for whichever sector on which they are focused will be an important contributor to dealflow. The CEEF TA program serves to provide an important bridge between the ESCOs marketing in the field, the district heating companies with a captive market, and the FIs seeking to

develop lucrative new lending markets in the face of increasing competition. In Lithuania, the development of the industrial sector – where FI relations are strong and ESCOs have had difficulty marketing – will depend upon developing marketing partnerships with participating FIs.

The UN-supported Cleaner Production Centre in Kaunas (APINI) also has developed important relations and established dealflow in the industrial sector. A substantial portion of these cleaner production projects are EE focused. The APINI program provides important TA, project identification, and engineering support, but their access to finance is limited. A partnership with CEEF – and the CEEF participating FIs – can be an important bridge to the financing necessary to implement the quality projects identified by APINI.

Finally, the Lithuanian ESCO industry presents an active group of deal developers whose capacity to finance and structure projects for financing is limited. They represent an important source of new business for the CEEF partner FIs. CEEF will play the important role of assisting the ESCOs to structure their deals, raise equity, and facilitate the presentation of ESCO-developed deals to the participating FIs.

## Assessment of CEEF Banking and Leasing Sector Markets Banking and Leasing Sector Analysis – Czech Republic

Structure of the Banking Sector. As of December 31, 2001 38 banks were operating in the Czech Republic, including 12 Czech and 26 foreign controlled institutions. Total industry assets amounted to CZK2,785.0 billion (approximately US\$76.3 billion equivalent).

The Czech banking sector is dominated by three large banks: Ceska Sporitelna, Ceskoslovenska Obchodni Banka (CSOB), and Komerčni Banka, each majority-owned by a large foreign bank. These banks together hold 59.0% of total sector assets, 60.0% of credits and nearly 70.0% of deposits. In June 2000, a fourth large bank, Investicni a Postovni Banka was put under forced administration and its operations were subsequently sold to CSOB.

Medium-size banks (with assets of CZK15.0 to 100.0 billion or US\$0.4 to 2.5 billion equivalent) hold 21.0% of banking sector assets, 22.0% of credits and 16.0% of deposits. The medium-size sector of the banking system is gradually gaining in importance, primarily because of the involvement of foreign banks (9 out of the 12 medium-size banks in the country are controlled by foreign banks). Their presence has improved overall quality of service in the market through a transfer of know-how from their parent institutions.

The remainder of the system comprises several small banks, foreign bank branches, and building societies.

Status of Bank Privatization. After the privatization in 1992 of Zivnostenska Banka (with IFC's support), there was no progress in bank privatization until the end of 1997. Although the share of the private sector in the largest banks formally ranged from 30.0% to 50.0% of equity, this partial privatization was achieved primarily by mass coupon methods, and did not generate any improvements in corporate governance. By late 1997, the state still had effective control over the four largest banks, accounting for nearly 60.0% of total bank assets. This group of large banks included Komerčni Banka (the Commercial Bank), Ceska Sporitelna (the Savings Bank), Investicni a Postovna Banka (the Investment Bank), and Ceskoslovenska Obchodni Banka (the Foreign Trade Bank or CSOB). In March 1998, the first major bank privatization was concluded, with the sale of the Investment Bank to Nomura. But the bank had not been properly restructured; it later became insolvent and had to be re-sold to CSOB. By the end of 1998, progress in bank privatization remained unsatisfactory, with three banks accounting for half of bank assets still under state control, and growing disappointment over the results of the Investment Bank's privatization.

The failure to restructure and sell the state banks to strong strategic investors was probably driven by the initial reluctance of the Government to explicitly accept the large fiscal costs of restructuring, to allow foreign strategic investors in the large banks, and to recognize the failure of coupon privatization to improve the governance of enterprises and banks. The first real evidence of change in economic policy occurred in May 1999, when CSOB was sold to a Belgian bank (KBC Bank NV), IFC, and the European Bank for Reconstruction and Development (EBRD). This was followed by the sale of the Savings Bank to an Austrian bank (Erste Bank) in February 2000. Initially, the privatization of the Commercial Bank was delayed by the revelation of fraudulent practices and the

start of criminal investigations. In 2001, the Government sold this bank to Societe Generale. The acceleration of bank privatization was only made possible by the Government's willingness to acknowledge the losses accumulated by the large state-controlled banks.

Operations and Performance. Non-performing assets remain the most important problem in the sector. Classified credits represented nearly 22.0% of total credits in the sector as of the end of December 2001. While still high by international standards, this rate represents considerable improvement compared to the peak of 32.0% in 1999. Provisioning in the sector, however, remains below adequate.

Due to the relative shortage of economically viable lending opportunities, credits granted represented only 33% of the sector's assets of US\$76.3 billion equivalent at the end of 2001. As a result, most banks are increasingly focusing on developing their retail banking operations. This is also reflected in the growing importance of deposits in the banks' funding structure, which reached 66% of assets at the end of 2001. Given the difficulties in lending operations, profits from banking operations are increasingly being derived from fee-based and other products (41%), rather than from net interest income (59%).

The banks are well capitalized, with a capital adequacy rate of 15.52% at the end of 2001.

Regulatory Framework. An important reason for the Czech banks' asset quality problem has been the deficient legal environment for lending in the Czech Republic. However, during 2000, a number of changes in bankruptcy law and other related laws, such as the act on public auctions or the act on accounting, were introduced. The aims of these changes were to (i) achieve greater harmonization of Czech law with EU legislation; (ii) shorten the debt recovery process and (iii) increase recoveries of non-performing debt.

The continuing changes in the bank supervisory framework have also been positive. The Czech National Bank has adopted the "Core Principles for Effective Banking Supervision" of the Basle Committee on Banking Supervision and further alignments to the EU supervisory and legal framework are targeted to support the country's preparation for EU accession.

Leasing Sector. The Czech leasing sector is the largest in Central Europe. After considerable consolidation in the sector during the past decade, today the vast majority of the leading Czech leasing companies are bank-affiliated. Financial leasing accounts for over 95% of the sector's business volume. This is largely due to the fact that bank loans have become increasingly scarce, especially for smaller size companies, and leasing has emerged as a key alternative financing source. About one third of all investments in the Czech Republic are financed through leasing, a level close to that in developed industrial countries. Leasing volume reached Czk100 billion (US\$2.7 billion) in 2001, representing approx. 5% of GDP. Even though declining, leasing of passenger cars and other vehicles continue dominating the sector (together representing approx. 75% of the leasing volume). Leasing of productive equipment is gaining importance, reflected in a growth rate significantly higher than that of other segments within the sector. As a result, leasing of productive equipment represented 17.7% of the sector's leasing volume in 2001.

### **Banking and Leasing Sector Analysis – Slovakia**

Structure of the Banking Sector. The banking sector in Slovakia has gone through major restructuring in recent years (1999-2001). A series of bank failures in 1999-2001, and the resulting banking resolution, have mostly eliminated the sick banks in the system. The total number of banks in the system has gone down from 30 in 1997 to 20 in early 2002. The balance sheets of all of the larger state owned banks were cleaned up in 2000-2001. All of the larger formerly state owned banks, Slovenska Sporitelna (SSP), VUB and IRB have been privatized. All of the major banks are now owned by much larger foreign banks bringing in professional management and services.

However, the restructuring has left the banking sector with high liquidity and a reduced loan book, and more sector consolidation is likely. The clean up of non performing loans over the last couple of years has produced a clearer picture of the real loan portfolio of the banks. Total loans between 1997-2001 have gone down from nearly Sk 355 billion to Sk 293 billion. The loans-to-total assets ratio has gone down from 47 percent to 31 percent during the same period, while liquidity (including government securities) has gone up substantially. This implies an increased earnings challenge and competition within the banking sector in the coming years, creating pressures for further consolidation of the sector.

Regulatory Framework. Banking supervision, which is the responsibility of the NBS, has been weak in the past. The newly adopted banking law provides a stronger framework for corporate governance, risk management, and enforcement. The procedures for efficient resolution of problems in banks have also been substantially strengthened in the new law. The supervisor now possesses the explicit authority to require corrective action plans from banks, including requirements for a capital plan, plans for strengthening a bank's financial position, and other action the NBS determines to be necessary. Subsequent enforcement actions may be taken if NBS requirements are not met. Although banking supervision is transparent in almost every respect, Slovakia still falls quite short of complying with the Basel Core Principles for Effective Banking Supervision (see the BCP assessment in Volume III), reflecting legacies in the regulatory framework and the earlier passive approach to supervision.

In general, creditor rights remain weak, collateral systems other than for the traditional mortgage are poorly developed, and enforcement procedures are slow and unreliable. Court system weaknesses and inefficiencies are the most significant detriment to debt enforcement. As a result, credit is largely inaccessible to all but the upper echelon of corporate borrowers. To offset the high regulatory risk, lenders have adopted a policy of requiring fully secured loans in nearly all corporate transactions. Similarly, the process of insolvency remains slow, inefficient, and poorly regulated, although recent changes in the law have led to improvements. Legal and regulatory weaknesses have fueled a growing business in lease finance, where ownership resides in the lender or creditor, making asset recovery more efficient and predictable.

While the Foreclosure (Execution) Law has greatly enhanced the ability of creditors to foreclose on assets, mostly real estate, the creditor is unable to avoid court proceedings and continue enforcement without the cooperation of the debtor, which rarely occurs. Another notable deficiency in creditors' ability to secure their debts is the lack of a registry for pledges on movable property. Currently,

possession is required to effect a pledge on movables. A new law and pledge registry for pledge of movables is being developed with assistance from the EBRD and should enhance significantly asset based lending. Bankruptcy presents the worst option for a creditor to recover debt. Though creditors' rights in a bankruptcy proceeding were strengthened by amendments adopted to the Bankruptcy Law as of August 1, 2000, creditors continue to find that participation in bankruptcy proceedings is not fruitful.

Status of Bank Privatization. Ownership restructuring undertaken since 1998 has improved the condition of the Slovak banking system in several ways. As a key part of their strategy for bank restructuring, over the past two years the authorities pursued the rapid sale of the three main state-owned banks to foreign strategic investors. When the remaining smaller bank privatizations agreed and anticipated for 2002 are completed, the share of banking system assets controlled by foreigners will rise to over 98 percent. The entry of foreign owners is bringing a proper credit culture and governance to these banks, as well as new, modern risk management systems, such as credit risk scoring. These improvements will address the principal problem of inadequate loan practices that created the system's widespread insolvency.

Operations and Performance. Financial restructuring has diminished the NPL problem considerably. In the process of selling the state-owned banks to private foreign strategic investors, the government cleaned up bank balance sheets, by removing NPLs to the tune of about Sk 112 billion (13 percent of GDP) and transferred them to the consolidation agencies of the government. New capital has been injected as Government bonds, and banks are generally very well capitalized now. NPLs not covered by provision (net NPLs) in the system have fallen from 25 percent of total loans in 1998 to 7.8 percent currently. This amount is much more manageable, particularly in light of the doubling in the banking system's capital ratio that has taken place over the same time period.

However, excess liquidity has reduced the operating profitability in the post-restructuring environment. Banks are highly liquid, as they have limited their commercial lending and are putting funds into liquid, but low-yielding, assets. This should raise concerns about banks coming under pressure to reach for yield by taking on new kinds of risks, especially market risk, in the future. Competitive pressures in an environment of low operating profitability can also be expected to drive a further round of consolidation. Banking supervisors will need to make efforts to improve their supervision of market risk. A new capital adequacy regulation expected to be adopted in the fall of 2002, will introduce a capital charge for such risk .

The new foreign owners are also changing the direction of the banking business. Bank strategies emphasize expanding into retail banking and mortgages. These are underdeveloped markets but, because of their small size, they may not be able to generate sufficient profits for all entrants.

With regard to credit risk, the threat of existing loans turning bad is unlikely to be the source of vulnerability going forward, because banks are now well-capitalized, borrowers are in an improved financial condition, and more conservative lending rules are being adopted. Looking forward, improved credit management can be expected to slow the pace of generating any new NPLs.

Bank profitability is under pressure. While net income has improved significantly in recent years (ROE reaching 25% and ROA reaching 1.2% in 2001), this gain is based in large part on non-recurring items, such as a reversal of funds previously committed to specific provisions or to the general risk reserve. Looking at an operating profitability measure before provisioning, the rate of return on assets shows the system at near-zero profitability for the past three years.

Banks can be expected to respond by reaching for yield, improving efficiency, expanding into retail lending and other currently under-served business areas. Further consolidation is also likely.

Leasing Sector. The leasing industry in Slovakia has been a rather small but stable part of the financial sector. Though it had a major setback during 1999, the industry has bounced back to approximately 5 percent of the financial sector in terms of assets and a similar percent of GDP. The fortunes of the leasing industry in Slovakia are tied closely to the automotive industry which represents approx. 65% of all leasing business. A strong driver of the leasing industry is the ability to claim accelerated depreciation allowances on leased assets; this allows leasing companies to competitively price their lease finance products compared with bank term loans. However, as GDP growth began to falter in 1998/99 the Government introduced an austerity package, which, inter-alia, set upper limits for the depreciable value of cars, thus eroding the cash flow advantage previously enjoyed by leasing companies. The Government also imposed a temporary 7% import duty on cars during 1999, which it subsequently removed in 2000. As a result, leasing companies are expected to start focusing more on the leasing of productive and other equipments.

## Banking and Leasing Sector -- Estonia

Structure of the Banking Sector. The Estonian financial intermediation is based on the universal banking model, where banking sector has a dominant role and the share of securities market is relatively low. Estonian banking market is a concentrated, mainly foreign-owned and fully privatized market. Some specific features stem from a) the small size of the economy, b) the short period of development (10 years), and c) the status of Estonia as an EU accession country. Leading banking institutions have formed financial groups and are active in all three Baltic Countries.

The Estonian banking system has undergone substantial consolidation and restructuring since 1992, with the number of banks falling from 42 to 7 at the end of 2001. Three mergers involving larger banks were carried out in 1998: one between Hansapank and Hoiupank, another between Uhispank and Tallinna Pank, and the third between Eesti Forekspank and Estonian Investment Bank (to form Optiva Pank). The acquisition of strategic stakes by Sweden's Swedbank in Hansapank, by its domestic rival Skandinaviska Enskilda Banken (SEB) in Uhispank, and by Finland's Sampo Group in Optiva placed most of the country's banking sector in Scandinavian hands. The share of foreign investment in banks' paid-in capital was about 84% at the end of 2001, and foreign owned banks accounted for almost 95% of all banking assets.

Regulatory framework. In 2001, both the EU Peer Review and the Financial Sector Assessment Program by the IMF concluded that banking supervision has strengthened further and most standards are comparable with the best international practice. It concluded that the Estonian financial sector crisis management policy has the necessary legal framework and a comprehensive set of tools. Regarding the financial sector safety net, all major building blocks are there, comprising a monetary operational framework that is supportive despite the limited lender-of-last-resort facility under the currency board arrangement (EEK is fixed against EUR), an operational deposit guarantee scheme, and an effective crisis prevention and resolution.

All of the foreign owned banks have adopted their parents' credit and risk management procedures. As of January 2002, a new supervisory authority was created in Estonia, which has taken over the task of regulating and supervising the financial and capital markets from the Bank of Estonia and other agencies, thus consolidating supervision in one institution.

**Operations and Performance. The mergers and consolidations have strengthened Estonian banking sector. Consolidated capital adequacy is a comfortable 14% on average, with no bank below 10%. ROE ranges around 3%. Total assets account for 70% of GDP with yearly growth rate of about 20%, with growth in deposits exceeding growth in loans. Non performing assets represent less than 5% of the sector's aggregate loan portfolio.**

The relatively rapid growth of banking assets is based on a strong increase in deposits. In 2001, total assets reached US\$3.8 billion, 18% growth on 2000, while deposits increased to US\$2.4 billion, growing on average 3% a month to 62% of assets. Most of the deposits (70%) were denominated in EEK, and were demand deposits (63%). Deposit expansion has been supported by new attractive Internet and ATM facilities for customers as well as by better access to different banking services (credit cards, consumer loans etc.). Hence, Estonian banks have become less dependent on foreign institutional borrowing and their cost of funding have decreased considerably. Despite lower funding

costs, due to the intense competition in the sector net interest margins have been declining and are currently estimated in the range of 3-4% on average.

The asset structure indicates a tendency for an increasing share of loans being made to financial institutions, mostly to leasing subsidiaries of banks. Still, the largest share of assets still goes to the non-bank sector, averaging 40% of total assets and about 65% of loan portfolio, primarily to real estate (18%), manufacturing (15%) and retail (11%) industries. About 80% of loans are denominated in foreign currencies, mainly EUR (70% of all loans). Companies account for 43% of loans, financial institutions 30%, and individuals 22%. Increasingly more long term loans are granted (86% of all loans), of those 40% with maturity between 5 to 10 years.

About 60% of bank assets are invested in domestic corporate sector, of which 1/3 is placed via leasing companies.

Leasing Sector. Since its establishment in 1993, the leasing market has been developing rapidly as an important funding alternative, with leasing volumes in 2001 representing 7.5% of GDP. Five leasing companies account for 99% of the market. Hansa Leasing is the market leader with 65.9%, followed by Uhis Leasing with 18.5%. Nordea Finance Estonia accounted for 8.4%, Sampo Liising 6.8% and Siemens Finantseeringud 0.4% of the market. Because the majority of leasing companies are owned by banks, the main source of funding is credit by parent banks, but they are also able to raise funds from international capital markets with the guarantee of the parent bank. Banks encourage leasing financing over ordinary bank loans mainly because of collateral ownership reasons.

Financial lease (with 55% market share) is by far the most popular, followed by operating lease (26%) and hire-purchase (19%). The structure of leased goods is relatively concentrated, being dominated by real estate (22%), individual cars (27%), commercial vehicles (20%) and investment goods (20%). The term structure has increased with 30% of all contracts concluded for 3 years and 47% for between 3 and 5 years.

## Banking and Leasing Sector -- Latvia

Structure of the Banking Sector. The banking system remains overbanked for a country with 2.4 million people, although the number of banks has come down from 63 in 1993 to 23 banks in 2001. The small size of the market (total banking system assets just over \$5.6 billion) limits business opportunities and growth for financial institutions. The banking system is concentrated with the three largest banks holding 52% of the total assets of the system. Two of the three largest banks are majority foreign owned by SEB and Swedbank from Sweden. The large proportion of nonresident deposits in the system (42%) is a potential source of instability. Competition in the market is expected to increase as foreign ownership influences the performance of the larger banks favorably, further squeezing the market shares of smaller players. The credit quality in the banking system remains satisfactory, despite strong asset growth.

The Latvian banking system has undergone substantial consolidation and restructuring since the banking crisis of 1995-1996, as the number of domestic commercial banks has come down from 63 banks in 1993 to 23 banks at the end of 2001. Currently two of the three largest banks have foreign strategic investors in their shareholding structure, which helps limit the systemic risks in the banking sector (the share of foreign investment in banks' paid-in capital reached 67.8% at the end of 2001, with foreign shareholders holding over 50.0% of the capital in 10 Latvian banks, accounting for 62.5% of banking sector's total assets).

During 2001, total banking assets grew 28.2% reaching US\$5.6 billion. Loan portfolio increased by 50.5%, increasing its share of total assets to 47.3%. The share of five largest banks increased and amounted to 66.2% of assets, 73% of loans, and 69% of deposits.

### Regulatory framework

The Latvian banking supervision system was created with the assistance of various US and EU international development agencies, and its regulatory framework incorporates all the principles of EU directives. Prudential regulations and requirements are in general adequate for appropriate risk management practices in the lending area. Many of the Latvian banks have adopted their foreign parents' credit and risk management procedures.

In July 2001, a new supervisory authority was created in Latvia, the Financial and Capital Market Commission (FCMC), which has taken over the task of regulating and supervising the financial and capital markets from the Bank of Latvia. The Anti-Money Laundering Law and the Deposit Insurance Law were adopted in 1998 and an independent money laundering unit is now operating in cooperation with the General Prosecutors office.

**Operations and Performance.** The national economy was actively engaged in borrowing, and 85.9% of all loans went to domestic borrowers. Loans issued to the manufacturing sector grew 17.7%, to trade - 31.4%, and to transport & communications - 22%, while loans issued to construction industry increased 2.3 times. Mortgage lending developed rapidly, and with a growth rate of 112%, its share in the loan portfolio of banks increased from 10.9% to 15.2%.

While lending increased substantially, loan quality continued to improve. By the end of the year banks had assessed 95.8% of the loan portfolio as standard, and only 1.4% as close watch. The share of non-performing loans (substandard, doubtful, lost) dropped from 4.5% to 2.8%, and their volume decreased.

Specific loan loss provisions (non-bank customers) decreased by 1.2% and amounted to 1.7% of loans granted to non-bank customers at the end of 2001.

Medium and long term financing is readily available. In 2001, volume of long term loans (over 5 years) increased almost twofold, reaching US\$758 million, or 29% of the aggregate loan portfolio.

Due to considerably lower interest rates, proportion of loans granted in foreign currencies increased to 57%. About 28% of these were granted in EUR, and 67% in US\$.

Banks are comfortable extending financing against strong collateral. Collateral requirement is 130% as a rule of thumb. SMEs still have difficulties getting loans due to, among others, lack of sufficient collateral, underdeveloped land and other real estate markets, and lack of credit information. However, as FI lending margins fall, banks are focusing more on new products and market segments including SMEs. Net interest margin in the banking sector fell in 2001 from 3.6% to 3.1%.

Liquidity seems to be available for medium term financing, and the foreign-owned banks also offer long term financing in most currencies.

In 2001, the amount of deposits grew by 24.9% to US\$3.7 billion, indicating increasing confidence in the banking system. The share of time deposits in the total structure of deposits is increasing, from 35% in 1999 to 40% in 2001. Higher interest rates contributed to increased LVL deposits, while US\$ accounted for 85% of foreign currency deposits, followed by EUR of 12.2%.

Non resident deposits come down to 42% as opposed to 48% of total assets in 2000, due to strong domestic deposit growth. Most of the non-resident assets are concentrated at Parekss banka, which holds about 20% of all non resident deposits, constituting 74% of the bank's asset base. Unibanka and Hansabanka each had nonresident deposits of 7% and 22% respectively in their asset base, and between them accounted for 8% of all non-resident deposits.

**The profit of the banking sector reached US\$80 million, up 29.5%, with income from interest on loans (38.3%) with fees & commissions (23.1%) dominating earnings. The efficiency of banks improved, and the ratio of administrative expenses to net financial activity income was 57.4%, a 3.2% drop from 2000. The ROE increased by 0.4%, reaching 19%, while ROE declined slightly from 1.6% to 1.5% in 2001. The capital adequacy ratio declined slightly from 14.3% in 2000 to 14.2% in 2001.**

Leasing Sector. Leasing has become more integrated with banks and is increasingly becoming a complementary financing product, especially for SMEs without a longstanding debts service track record and access to high quality collateral. The leasing market is dominated by the leasing subsidiaries of Hansabanka and Unibanka, the two largest Swedish-owned commercial banks.

According to the Leasing Association, the aggregate leasing and factoring portfolio of its members grew 50% to LVL 212.2 million (US\$ 342.3 mln) during 2001, of which 84% was leasing and 16% factoring portfolio. Most of the leasing portfolio were passenger cars (30.9%) and industrial equipment (21.9%), followed by real estate and commercial vehicles at 18% each. The most popular leases were for 1-3 years (32.4%) and 3-5 years (32%). Individuals became more active in using the services, and accounted for 26.9% of all clients, 19.6% were trading companies, 18.2% were industrial plants and 18% transport & communications companies.

## Banking and Leasing Sector Analysis --Lithuania

### Structure of the Banking Sector.

The Lithuanian banking system has undergone substantial consolidation and restructuring since the banking crisis of 1995-1996. As a result, the number of banks declined from 27 in mid 1990s to 9 domestically incorporated banks and 4 branches of foreign banks by the end of 2001.<sup>8</sup> The elimination of weaker and smaller banks has strengthened the sector and enabled big players to reach sufficient size in order to benefit from economies of scale. The Lithuanian banking system is now highly concentrated, with the three largest banks accounting for 85% of the total banking system assets of LTL 15.4 billion (US\$3.9 billion).<sup>9</sup>

The share of foreign capital in the Lithuanian banking system increased dramatically from 16% at the beginning of 1996 to 90% as of February 2002. Foreign investors held more than half of the share capital in 6 out of 9 commercial banks by the end of 2001. Vilniaus Bank, the largest bank which controls over 40% of the total banking system assets, is owned by Skandinaviska Enskilda Banken ("SEB") of Sweden. Hansapank, Estonia's largest bank owned by Swedbank of Sweden, acquired the Lithuanian Savings Bank ("LTB"), the second largest bank and merged with the domestic bank Hansabankas to become Hansa-LTB in 2001. The German bank Nord/LB acquired Lithuanian Agricultural Bank, the third largest bank, in February 2002.<sup>10</sup>

### Regulatory framework

Prudential regulations and requirements are in general adequate for appropriate risk management practices in the lending area. In most respects, a comprehensive framework of prudential regulations and supervision either fully or largely conforms with the Basel Core Principles. Overall, the Bank of Lithuania ("BoL") has been efficient and professional when carrying the supervision of banking institutions. It has recently tightened the definition of non-performing loans, and the scrutiny of loan quality became more thorough. The regulatory framework provides only general principles for internal credit and risk management practices. Most of the Lithuanian banks have adopted credit and risk management procedures from their parent banks.

### Operations and performance

Until recently, the banks' activities have concentrated on lending to large corporate clients. Due to improving economic conditions and growing confidence in the banking sector, deposits have increased, whereas demand for loans has remained limited. As a result, the banks face liquidity surplus and interbank funding has been reduced, pushing the interbank interest rates to historically very low levels. In order to expand the loan portfolio, the banks have started targeting SMEs and households and are increasingly focusing on extending the range services. Retail banking has been growing rapidly due increasing consumers interest in modern banking services, including electronic, telephone and virtualbanking, increasing need to save and invest and improved possibilities of the banks to issue loans. As a result, the number of corporate and private clients has been increasing.

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<sup>8</sup> In addition, there were 5 foreign bank representative offices in Lithuania by the end of 2001.

<sup>9</sup> LTL/US\$ exchange rate was 4.0 as of end of 2001.

<sup>10</sup> The following foreign banks are also present in the Lithuanian market: Sampo which has acquired the Lithuanian Development Bank, Kredyt Bank, Nordea, Vereins-und Westbank and Parex Bank.

The banks' loan portfolio has been growing constantly reaching LTL 6.5 billion (US\$1.6 billion) by the end of 2001 and the share of loans in the banking assets at net value increased from 40.6% to 42.3% in 1999-2001. The main growth factors for the loan portfolio have been economic development, decreasing interest rates and the housing credit program carried out by the state. Although the proportion of loans in Litas and foreign currencies is approximately 1/3 to 2/3, loans in the local currency and with the maturity of 1-5 years have been growing most significantly. The banks typically require collateral of more than 130% of the loan value.

Despite continuous loan portfolio growth in the last few years, the growth was sluggish and the banks have under-utilized their lending potential. Loan to GDP ratio stands at only 13% while 23% in Latvia and 33% in Estonia. The ratio of loans to deposits remains very low at 70% while 116% in Latvia, 130% in Estonia, and 137% in Hungary. There is at present ample liquidity in the Lithuanian banking system in excess of the required 30% of liquid assets to current liabilities which partially reflects caution by banks in granting loans.

Deposits have risen faster than loans, despite the fact that as a result of the rise in inflation in 2001, the average deposit rate was negative in real terms. Most of the deposits are small and short-term. The share of 1 month deposits accounted for almost 4/5 of all time deposits in Litas and 60% in foreign currencies. Nonetheless, the share of long term deposits is expected to rise due to incentives recently implemented in the tax regulations.

Lending operations constituted 51.7% of the banks' total earnings as of end of 2001. Interest rates on loans were slipping down more rapidly than those on time deposits and led to decline in real interest margin from 5.2% to 4.3%. Interest earnings were LTL 10.8 million (US\$2.7 million) lower than in 2000, although the loan portfolio increased by LTL 1 billion (US\$250 million). The banks intend to compensate for the shortage of interest earnings by developing other banking operations and services. The profitability trend should pick up in the long-run as banks are beginning to realize the benefits of investments into network expansion and as fee-generating activities are developing rapidly.

The profitability of the Lithuanian banking sector grew by 250% from 1999 to 2000. However, the sector operated at a loss of LTL 23.3 million (US\$5.8 million) in 2001 mainly because of revaluation of Hansa-LTB bank assets and losses of foreign bank branches. In 2001 the banks were in compliance with the prudential requirements with a sizeable reserve. Based on unaudited statements, the capital adequacy was 15.5% significantly exceeding the minimum of 10%. Liquidity ratio was 47.9% and was considerably higher than the required 30%. The switch of the anchor currency from the USD to Euro in early 2002 was smooth, and the commercial banks were well prepared for the re-peg. No changes in re-pegging are planned until Lithuania joins the EMU.

Leasing Sector. Leasing has increased rapidly in the last two years and may offer a useful complement to bank finance, especially for SMEs without a longstanding debts service track record and access to high quality collateral. Although there are 15 leasing companies, the leasing market is dominated by the leasing subsidiaries of Vilniaus Bank and Hansa-LTB, two largest Swedish-owned commercial banks. The assets of the leasing sector assets increased from LTL 600 million (US\$150 million) in 1998 to nearly LTL 1 billion (US\$250 million) assets which account to nearly 2% of GDP and is expected to grow further mainly due increasing need for financing of cargo and passenger cars as well as equipment and real estate.

**Comparison of HEECP versus CEEF Programs**

The CEEF guarantee program represents a concept very similar to that applied in the Hungary Energy Efficiency Co-Finance Program (HEECP), which has been operated by IFC since 1997 with GEF resources, and was then expanded with an IFC investment of \$8-12 million (HEECP2) approved in February 2001. While many features of the HEECP2 structure are proposed to be also applied in CEEF, the HEECP model will be modified in several areas based on IFC's experience implementing HEECP/HEECP2. The similarities and differences are summarized below.

	<b>HEECP2</b>	<b>CEEF</b>	<b>Implications</b>
Guarantee Percentage	generally 35% of outstanding balance of principal, but up to 50% in exceptional circumstances	up to 50% of outstanding balance of principal	More effective risk sharing
Risk Sharing	Subordinated recovery	Pari passu	FIs have more incentive to ensure good portfolio quality and pursue remedies in the event of NPLs
GEF Participation in Relation to IFC	GEF funds in the first loss position	GEF funds in the first loss position, but pooled on a regional basis, rather than country by country	Improved risk profile for IFC compared to a country by country approach, thus improved ability to support larger size projects and greater insulation from country risk issues.
Maximum Single Transaction Guarantee	the lesser of: (i) \$500,000, or (ii) 25% of the FIs' guarantee facility	For use of streamlined procedures, maximum single guarantee of \$500,000; for non-streamlined transactions, maximum of \$1,875,000 (representing 12.5% of GEF reserves)	Better portfolio diversification by including larger projects of different types (i.e. district heating modernizations, cogeneration, industrial process upgrades) which could not otherwise be captured by the Program. The potential negative impact of the increased single exposure size is offset by GEF's regional portfolio approach in the first loss position.
Term	Max. 7 years, with availability period of 4 years	Max. 7 years (but can be up to 8 years in special cases), with availability period of 4 years	Somewhat higher risk given the longer tenor but will allow the Program to capture additional projects (Considerable demand was indicated during appraisal for EE financing of 7.5-8 years.)

Guarantee Fees	1% per annum guarantee fee and 0.5% one time front-end fee, on IFC's exposure.	– Guarantee Fee Per Annum: Pricing set to market; Will be significantly higher than HEECP2, but variable between countries.	
Origination	Some limited use of streamlined procedures for approving guarantees	Accelerated use of streamlined guarantee approval procedures for guarantees up to \$500,000	Simplify program operations. Lower costs of operation. Adopt lessons learned on HEECP.
Program Management	Dedicated local Program Manager & Staff report to EFG; Supervisory Committee consisting of staff from both CEUFM and EFG; Local Advisory Committee	Two dedicated Programs managers, one for Czech Republic and Slovakia, the other for the Baltics both of whom report to CEUFM with EFG in advisory role; one Supervisory Committee consisting of staff from both CEUFM and EFG; Local Advisory Committee in each country.  HEECP2 Program Manager to provide mentoring and training to the CEEF Program managers	Creating two program offices but covering more than one country is expected to result in some economies of scale and additional efficiencies. Nonetheless, each program office will have staff with specific expertise related to each of the covered countries.  Possible satellite offices co-located with local NGO partners.

**Table of "Lead" FIs Identified During Appraisal to Initiate the Facility  
[Presently in Negotiation of GFAs]**

Country	FI	Largest Shareholder (Nationality)	Profile / Strategic focus	Subsidiary Interest in Participating	Financial Indicators (audited, 12/31/01)	Area of interest
Czech Republic	Cesko-slovenska Obchodni Banka	KBC (Belgium)	Universal	Leasing	Total Assets: US\$14.6 billion Net Worth: US\$1.04 billion Net Income: US\$167 million ROAE: 15.9% BIS CAR: 14.7%	SMEs, residential, multi-family, district heating, hospitals
	Ceska Sporitelna	Erste Bank (Austria)	Universal / with SMEs and retail focus	Leasing	Total Assets: US\$13.5 billion Net Worth: US\$670 million Net Income: US\$49 million ROAE: 7.6% BIS CAR: 16.5%	All types of EE projects
Estonia	Hansapank	Swedbank (Sweden)	Universal	Leasing	Total Assets: US\$4.1 billion Net Worth: US\$425 million Net Income: US\$95 million ROAE: 25.4% BIS CAR: 15.2%	SMEs, residential, public lighting and heating, industrial cogeneration and large industrial upgrades
	Nordea Finance Estonia	Nordea Bank (Finland)	Leasing / industrial equipment	N/A	Total Assets: US\$66.6 million Net Worth: US\$9.1 million Net Income: US\$2.3 million ROAE: 28%	Industrial boilers and other industrial equipment.
Latvia	Hansabanka	Swedbank (Sweden)	Universal, focus on corporate finance	Leasing	Total Assets: US\$871 million Net Worth: US\$76.4 million Net Income: US\$9.4 million ROAE: 15% BIS CAR: 14.2%	SMEs, district heating, industrial upgrades

	Unibanka	SEB (Sweden)	Universal	Leasing	Total Assets: US\$931 million Net Worth: US\$89.1 million Net Income: US\$18.7 million ROAE: 23% BIS CAR: 12.3%	Cogeneration, boiler houses, district heating
Lithuania	Vilnius Bankas	SEB (Sweden)	Universal	Leasing	Total Assets: US\$1.6 billion Net Worth: US\$171 million Net Income: US\$23.8 million ROAE: 13.9% BIS CAR: 14.3%	Residential, multi- family housing upgrades, heating and lighting
	Hansa Bankas LTB	Swedbank (Sweden)	Universal	Leasing	Total Assets: US\$997 million Net Worth: US\$72.2 million Net Income: US\$(28.5) million ROAE: (44.7)% BIS CAR: 16.5%	SMEs, District heating, ESCOs, boiler houses
Slovakia	Slovenska Sporitelna	Erste bank (Austria)	Universal	Leasing	Total Assets: US\$4.2 billion Net Worth: US\$240 million Net Income: US\$24 million ROAE: 18% BIS CAR: N/A	SMEs
	PKB	Dexia Credit Local and Kommunal- kredit Austria	Universal	Leasing	Total Assets: US\$470 million Net Worth: US\$29 million Net Income: US\$6 million ROAE: 23% BIS CAR: 12.6%	All types of EE projects

**Transaction Guarantee Procedures: Underwriting Guidelines for Municipal and ESCO Transactions**

## A. CREDIT ANALYSIS & UNDERWRITING GUIDELINES FOR MUNICIPALITIES

These guidelines apply to credit analysis on transaction guarantees where the underlying credit for the transaction is based on the payment obligation of a municipality.<sup>11</sup> They are subject to local country laws and fiscal policies governing municipal finance and will be adapted accordingly for each CEEF country.

### Municipal Finance Background

1. Analysis of a municipal credit must be approached two ways:
  - a) is the new borrowing (lease or rental agreement) within their statutory debt capacity?
  - b) does the municipality have sufficient cashflow to meet the new debt service payments?
2. Debt Limit Law. Municipalities are required by law to provide certain essential public services including schools, public lighting, transportation, waste management, and district heating energy services, where DH systems exist. Approximately 80% of municipal expenditures are determined by legal service requirements. Further, approximately 70% of municipal revenues, on average, derive from revenue sharing from higher level (county and national) governments. Typically 20-30% of total municipal revenues derive from their own independent taxes, termed "own revenues". Own revenues of the municipality include: local taxes, duties and profit, dividends, interests and rental fees earned from municipal enterprises and assets.

By law, municipalities are subject to a debt limit calculated so that (A) annual debt service (principal and interest) does not exceed (B) 70% of own revenues. The debt limit statute refers not to total debt outstanding, but to annual debt service, so the debt limit calculations, both numerator and denominator, need to be calculated year-to-year over the full term of the new debt.

Enforcement of municipal finance rules and oversight of municipal budgets is conducted by the Ministry of Finance and by an independent State Audit Office. Contingent liabilities, such as a municipality guarantee of its DH enterprise debt, would count towards the debt limit. Further,

The FI proposing the transaction must confirm that the subject municipality has available debt capacity within the statutory limit; HEEPC staff will review and confirm these calculations.

3. Available Cashflow and Debt Service Capacity. The cashflow capacity of the municipality to meet new debt service payments is more complicated to analyze. Prospective municipal budgets are

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<sup>11</sup> IFC will not provide guarantees on loans made directly to municipalities, but does provide guarantees on loans to ESCOs where the ESCO is loan is secured by a sub-loan, rental agreement or other transaction with a municipality.

by law designed to balance income and expenses. So, the first point to assess is historic net operating income (difference between total income and total expenses). If this has been positive, and positive to the extent of a reasonable multiple of the new annual debt service obligation, this is a good indicator. We can also analyze the ratio of compulsory to non-compulsory expenditures within the total budget; a higher ratio of non-compulsory expenditures indicates greater municipal budget flexibility and management capacity to adjust expenditure patterns to meet new debt service obligations. The extent to which “own income” sources are relied upon to meet compulsory services should also be examined. The greater the extent to which compulsory expenditures are being met by State transfers and other forms of State payments, and the lesser extent to which own income is having to be used for compulsory expenditures, the better. Further analysis to take into account energy cost savings achieved by the subject project in the calculation of available cashflow can also be made.

To simplify the analysis, IFC will calculate and use a debt service coverage ratio based largely on the statutory debt limit formula, as follows:

$$DSCR = \frac{(A) \text{ Own revenues of the municipality} \times 0.7}{(B) \text{ Guarantee taken by the municipality}^{12} + \text{Liabilities (debt) from existing and new loans for the current year}^{13}}$$

This DSCR shall be 1.50 or greater for streamlined approval. Transactions not meeting this guideline can be subjected to further analysis based on the guidelines indicated above.

4. Project Economics and Rationale. In all cases, the economics of the subject EE project to the municipality should be summarized, i.e., annual finance and service payment for the project compared to annual energy and maintenance cost savings. In cases where the energy and maintenance cost savings are less than the municipality's annual payments, confirm the municipality's willingness and rationale (e.g., improved public lighting services, or replacement of aged boiler system) for the project.

## B. CREDIT ANALYSIS & UNDERWRITING GUIDELINES FOR ESCOs

### Introduction

These guidelines apply to HEECP due diligence on transaction guarantees supporting loans to ESCO projects which include some project finance elements in the transaction credit structure, meaning the project itself is the primary security for the loan and the revenues and/or end-user payment obligation to the ESCO is in some fashion a function of project performance. Such projects include cogeneration, thermal plants under heat sales agreements and energy savings performance contracts. For these projects, it is essential to understand and model the project economics. Even when the ESCO borrows full recourse, the ESCO's ability to make debt service payments will be a function of

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<sup>12</sup> For companies owned by the municipality

<sup>13</sup> Both principal and interest are included

project revenues and performance. All risks associated with project revenues -- contractual risks, market risks, energy input prices, energy output prices, price spread risks, technical performance risks -- must be understood and evaluated.

These guidelines are presented in the form of a checklist. The primary financial analysis metric is the debt service coverage ratio, DSCR.

#### Due Diligence Checklist

1. Key Project Parties. Review background information on all key project parties including:

- \* ESCO or project sponsor/developer
- \* end-user and/or thermal host,
- \* all energy output purchasers, i.e., utility (if applicable)
- \* construction contractor
- \* operations contractor
- \* major plant component vendors

Assess the background, experience, track-record and financial condition of all key parties relative to their roles, responsibilities and performance commitments in the project. Review lender's summary credit analysis of key project payors, i.e., end-user, and ESCO.

2. Project Contract Structure. Diagram and review the contract structure for the project. Review all key contracts including:

- \* Energy Services Agreements
- \* Energy Sales Agreements, including Power Purchase Agreement, as applicable
- \* Construction contract
- \* Operations Contract, including equipment warranties, and performance warranties

Review the key provisions of all contracts associated with project. Summarize the structure of project revenues and the payment obligations of each project payor, including price formula, performance provisions, and termination rights and provisions. In general, we require long-term contracts matched to debt service, with energy price and price spread risks and end-use load risks assumed by the end-user(s), and turnkey contractual responsibility for construction and operations with reputable contractors with demonstrated track records. Review or establish completeness of other key documents, including, as applicable, project permits, interconnection agreements, fuel supply agreements, site lease agreement, easements, etc.

3. Loan Security Structure. Review and confirm loan security structure. In most cases, loan security will include: (i) assignment of project assets, including equipment, contracts, revenues, (ii) preferred drawing rights on accounts of end-user, (iii) corporate guarantee of ESCO and possibly the ESCO parent company; and (iv) possible assignment of revenues from other ESCO projects.

Collateral value of primary project equipment should be assessed relative to loan value. No fixed loan to value ratio is imposed.

#### Project Economics & Debt Service Coverage Ratio

4. Project Capital Costs. Review project capital costs estimates to assure that they are complete: (i) turnkey construction, including plant and equipment and installation, (ii) engineering and construction management, (iii) project development (breakdown between costs and fees/profit), (iv) site acquisition (if applicable) and final site improvements, (v) construction period interest, (vi) finance fees and expenses, including legal, and (vi) working capital and reserve funds, i.e., debt reserve.
5. Project Operating Costs. Review project operating costs estimates and to assure they are complete and reasonable including: (i) plant labor, (ii) utilities and consumables, (iii) maintenance and contract services, (iv) site lease (if applicable), (v) insurance, (vi) property taxes, (vii) management, monitoring and G&A, (viii) contributions to plant/equipment repair/replacement fund, and (ix) other, as applicable.
6. Fuel Costs. Fuel costs constitute a special class of project operating costs. Review fuel source and supply and any supply agreements, if applicable. Determine how project costs and revenues respond to changes in fuel prices, e.g., that fuel price increases passed on to end-users through the primary energy services/sales agreement price formula. Review outlook for fuel prices.
7. Summary Project Engineering Feasibility Study. Review summary engineering feasibility study for the project and confirm that estimates of Project performance, on-line capacity and availability, plant operating pattern, end-user load profiles, and all fuel consumption and output (thermal and electric) production and sales estimates are reasonable. Request and review summary information concerning the technical performance history of the project design and equipment, e.g., history of similar installations, plant performance estimates on capacity, availability and efficiency), future repair and replacement needs and plant useful life.
8. Project Financial Structure. Review project financing structure, including: (i) sources and uses of funds for the total project capital budget, (ii) debt/equity ratio, (*generally a minimum of 20% equity in the financing structure is required*), and (iii) estimated debt financing terms.
9. Construction Risks. Review project construction finance plan. Will project debt disburse during construction for progress payments, or only upon project completion? If lender is exposed to project construction risks, confirm terms of turnkey construction contract. Review plant commissioning and acceptance testing protocol/standards and confirm that these standards are consistent with base case project performance estimates.
10. Project Cashflow Projection, DSCR and Sensitivity Analysis. Review project cashflow projection showing all estimated project revenues, expenses, debt service and calculation of tax liability and payments, for the full term of the project debt. Calculate debt service coverage ratio for each year of project debt. DSCR equals that is, the ratio of (A) annual project revenues available for debt service, to (B) total annual debt service. Revenues available for debt service are equal to gross project revenues, from all sources, e.g., thermal sales and power sales, minus essential project operating costs such as fuel, operations and maintenance. In some cases, project management fees may be omitted from the calculation of project operating costs for the purposes of calculating the DSCR.

*Target DSCR shall be minimum of 1.25 and as high as 1.5+ depending on project risk profile.*

Identify key variables affecting project revenues and DSCR, including, for example, energy prices and project performance. Establish with project sponsor reasonable range of future values, including worst case, for these variables. Request and review sensitivity analysis to test how DSCR responds to changes in key variables, particularly fuel prices, electricity and thermal output sales prices, fuel and electricity price relationships, operating costs, and financial structure variables including debt interest rate & term and debt/equity ratio. Confirm integrity of project to meet debt service obligations in the reasonable range of scenarios.

**Summary Business Terms Reflected in Guarantee Facility Agreements with FIs**

**FOR DISCUSSION PURPOSES – [Subject to modification]**

**NOTE:** *The term sheet was used in appraisal to introduce prospective FI participants to the Project.*

International Finance Corporation ("IFC") and the Global Environment Facility ("GEF") are proposing to establish a Commercializing Energy Efficiency Finance ("CEEF") Guarantee Facility to promote energy efficiency financing in the Czech Republic, Estonia, Latvia, Lithuania and Slovakia. This program is designed to support energy efficiency ("EE") financing activities of qualified private sector financial intermediaries principally by providing partial credit guarantees. This term sheet provides general terms proposed for a Guarantee Facility Agreement in favor of participating FIs. It is provided for discussion purposes only and is not a binding legal instrument; all terms are subject to change. The decision of IFC and GEF to establish CEEF and to provide guarantee facilities to financial intermediaries is contingent on the approval of their management and boards of directors and on the execution of final documentation in a form and substance satisfactory to them.

**GUARANTOR:** International Finance Corporation acting as executing agency for the International Bank for Reconstruction and Development in its capacity as an implementing agency for the Global Environment Facility ("GEF") and the GEF Trust Fund (the "Guarantor").

**GUARANTEED**

**PARTY:** Financial Intermediary ("FI") established under the laws of Czech Republic, Estonia, Latvia, Lithuania or Slovakia, selected from among interested FIs for participation in CEEF and approved by IFC's management and board of directors.

**GUARANTEE FACILITY  
and TRANSACTION**

**GUARANTEES:** The FI and the Guarantor will sign a Guarantee Facility Agreement (a "GFA") pursuant to which the Guarantor will guarantee a percentage of the FI's credit risk exposure on certain EE transactions to be undertaken by the FI. The Guarantor will issue a Transaction Guarantee for each Approved Transaction to be undertaken by an approved Borrower/Lessee.

**TECHNICAL ASSISTANCE**

**FACILITY:** The needs of the FI and its clients will be discussed during the appraisal visit. CEEF would, subject to the approval of donors, include a complimentary technical assistance ("TA") program designed to meet those needs and could support, among others:

training of FI staff,

FI marketing and preparation of EE projects for investment (such as energy audits),

EE businesses in building their marketing and financing capacities.

**GUARANTEE**

**PERCENTAGE:** Up to 50% of outstanding principal balance of principal due in respect of Approved Transactions, on a pari passu risk sharing basis.

**SINGLE TRANSACTION**

**GUARANTEE LIMIT:** The maximum guarantee for a single transaction under the Guarantee Facility shall be the lesser of (i) up to 50% of the principal amount of the FI's financing of the Approved Transaction, or (ii) US\$500,000 (equivalent). The Guarantor may consider guaranteeing larger EE transactions of [up to US\$1,875,000] on a case by case basis.

**AVAILABILITY**

**PERIOD:** Transaction Guarantees may be issued under the Guarantee Facility for up to two years from the date of signing the GFA which period may be extended by another two years.

**TRANSACTION GUARANTEE**

**TERM:** The maximum term of each Transaction Guarantee shall be [eight] years.

**ELIGIBLE EE**

**TRANSACTIONS:** "Eligible EE Transactions" means a project or investment in goods and services aimed at improving efficiency of energy use in buildings, industrial processes and other energy end-use applications. These might include for example, lighting, boiler upgrades and controls, cogeneration systems, energy management control systems, variable speed drive motors, power factor correction, waste heat recovery, etc. Each Eligible Transaction should meet the following criteria:

(i) achieve demonstrable energy savings and reductions in emissions of greenhouse gases and project sponsors/participants must offer a viable method to monitor and verify the same; be a new project, not refinancing existing projects or any outstanding obligations of the Eligible Borrower (unless IFC otherwise agrees); and use proven technology and be developed with competent energy audit/feasibility studies and include energy savings monitoring plans.

Note: Eligible EE Transactions, subject to the above criteria, may also represent a portion of a larger investment to be financed by FI, in which case IFC's guarantee would be limited to the Eligible EE Transactions.

**ELIGIBLE**

**BORROWER/LESSEE:** An "Eligible Borrower/Lessee" must be a reputable private sector entity (even if the end-user is a public sector entity) organized and existing under the laws of the relevant country, which is or will be engaged in an Eligible Transaction provided that:

(i) such entity is not engaged primarily in the gambling or real estate industries or in the production or distribution of alcoholic beverages, tobacco products, or weapons;

(ii) direct and/or indirect public sector (including federal, regional and local governmental agencies and statutory corporations) participation in such entity's equity does not exceed in the aggregate 50% of such entity's total issued and outstanding voting share capital; and

(iii) the FI does not own more than 10% of the total issued and outstanding share capital of such entity.

**PROPOSAL:** The FI will submit a written proposal to the Guarantor (a "Proposal") in respect of each request for a Transaction Guarantee, that includes the following information:

- (a) background information on the Eligible Borrower/Lessee and the Eligible EE Transaction, including: the parties to the project, proposed borrower/lessee, project contractor, summary of the EE project technical features and engineering feasibility, project capital costs, operating costs and energy cost savings, project implementing contracts, and credit information on the borrower/lessee and other transaction payor(s) as applicable;
- (b) the FI's credit analysis of the transaction;
- (c) FI's proposed project financing terms, including the proposed principal amount, interest rate, term, repayment schedule and security structure;
- (d) the FI's request for the Transaction Guarantee, including the proposed percentage to be guaranteed.

#### APPROVAL

**PROCEDURE:** "No objection": The Guarantor will approve transactions of certain defined transaction types (i.e. single family, multi-family residential and street lighting projects) on a "no objection" basis, subject to the transaction meeting certain preset criteria. The transaction types and approval criteria will be discussed with the FIs during the appraisal visit. If the Guarantor does not object to such a Proposal within 15 days from receiving such Proposal, the Proposal shall be deemed approved.

Standard projects: For all other projects the Guarantor shall review the Proposal and respond within 30 days from receiving the Proposal: (i) approving the Proposal, (ii) indicating the terms under which it could approve the Proposal, or (iii) rejecting the Proposal. If a Proposal is approved by the Guarantor, the Eligible EE Transaction shall be an "Approved Transaction" and the Eligible Borrower/Lessee shall be a "Borrower/Lessee".

#### TRANSACTION

**DOCUMENTS:** The Guarantee Facility Agreement and the agreed form of Transaction Guarantee.

#### FI POST-CLOSING

**RESPONSIBILITIES:** Once a Transaction Guarantee has been issued, FI shall be responsible for diligently administering the Loan/Lease Agreement.

#### FI'S

##### POST-DEFAULT

**RESPONSIBILITIES:** The FI shall notify the Guarantor within 5 business days if an event of default (as defined in the relevant agreement) occurs under a Loan/Lease Agreement. If the event of default is a failure to make any payment due under the Loan/Lease Agreement, the FI shall:

- (i) institute legal proceedings to foreclose any security created in respect of the loan/lease; and
- (ii) diligently exercise all rights and remedies under Loan/Lease Agreement, including remedies for collection, repossession, liquidation of any security and other legal action;
- (iii) institute such other legal proceedings or take such other steps to recover the loss as the Guarantor may reasonably request; and
- (iv) provide the Guarantor with a regular written report on the legal proceedings and other steps taken to recover the loss.

#### **CALLING THE**

**GUARANTEE:** Provided that the Borrower/Lessee remains in default and the FI continues to comply with its post-default responsibilities, the Guarantor shall pay the "Guaranteed Loss Amount" to the FI within 90 days after the FI has given the Guarantor notice of its intention to claim under the Transaction Guarantee. The Guaranteed Loss Amount shall be the guaranteed percentage of the principal outstanding on the Loan/Lease at the time of pay-out

**RECOVERIES:** Unless and until it recovers all amounts due from a Borrower/Lessee in default, the FI shall:  
continue to comply with its post-default responsibilities and to take all reasonable and necessary action in an expeditious manner to recover all amounts due from the Borrower/Lessee; and keep the Guarantor informed of the current status of legal proceedings initiated and other steps taken to recover the loss.

Any recoveries shall be first applied to the outstanding principal until the outstanding principal is fully recovered. Subsequent recoveries would be applied to accrued interest. Recoveries shall be shared *pari passu* between the Guarantor (the guaranteed percentage, up to 50%) and the FI (the balance).

#### **REPORTING, TRANSACTION**

**MONITORING & EVALUATION:** FI shall provide quarterly and annual reports to the Guarantor that include the following information:

- a) information regarding its activities pursuant to the Guarantee Facility Agreement and the status, including payment performance, of all transactions for which Transaction Guarantee has been issued; the FI's own quarterly and annual financial statements, performance indicators, and indicators regarding the quality of its overall loan portfolio;
- any changes in FI's credit and monitoring procedures.

In addition, FIs shall cooperate, and shall cause the other parties in the transaction to cooperate, in the monitoring and evaluation of energy and cost savings performance of the EE projects supported by the guarantee.

#### **ENVIRONMENTAL REVIEW**

**REQUIREMENTS:** FI shall implement procedures to ensure that Approved Transaction comply with host country environmental, health and safety standards.

**GUARANTEE FEES:** The FI shall pay to the Guarantor Guarantee Fees of

Czech Republic	To be determined.
Estonia	To be determined.
Latvia	To be determined.
Lithuania	To be determined.
Slovakia	To be determined.

per annum of the total outstanding guaranteed amount of the Loan/Lease for each Approved Transaction. Guarantee Fees are payable from the date of signing the Transaction Guarantee, semi-annually in arrears.

**OTHER FEES:** One time front end fee (to be determined) at the time the Guarantor issues a Transaction Guarantee.

**REIMBURSEMENT OF EXPENSES:** The FI shall reimburse the Guarantor for the legal expenses related to the preparation of the GFA, the form of Transaction Guarantee and any legal opinions. A fee of US\$5,000 will be charged to FIs selected for participation in the Program after the appraisal, which will be applied toward the legal expenses.

## Lessons Learned From HEECP To Be Adopted In CEEF

The Hungary Energy Efficiency Co-Financing Program (HEECP) began operations in March, 1997. The mid-term evaluation for HEECP was conducted in mid-2000. The HEECP experience has provided many lessons in how to conduct guarantee and technical assistance programs. A summary of key lessons learned, and changes in program operations recommended from these lessons, are described below; these lessons are being incorporated into HEECP2 operations and into planning CEEF programs.

### 1. Development of Niche Financial Products and Underwriting Guidelines

a) Use Niche Financial Products. The EE market spans a range of end-user sectors. It is important to take a "financial product" approach to development of various financing structures to meet the needs and specific credit characteristics of each target sector. HEECP has grown most effectively by defining, with partner FIs, the credit structure and guarantee underwriting guidelines for financing projects in several niche sectors. For example, financing products have been developed for EE financing for multi-family housing, municipal streetlighting, district heating, industrial cogeneration implemented pursuant to energy sales agreements, and hospitals, with financing offered both direct to end-users and to ESCOs. Selection of the financial products to be offered, and the priority for rolling out each product, will be made in new CEEF countries based on priorities and opportunities of participating FIs and the assessment of the EE finance market requirements and project pipeline. TA program resources will be devoted to designing financial products to meet the needs of priority sectors, e.g., for SMEs.

b) Develop Underwriting Guidelines. The underwriting guidelines, negotiated with participating FIs, provide prescriptive guidance to FIs that helps upgrade the quality of the information they submit for TGs. The underwriting guidelines have also allowed use of streamlined procedures by IFC for review and approval of transaction guarantees; they target essential information for review and reduce administrative burdens in the approval process.

### 2. Managing Relationships with Participating FIs

a) In its second generation GFAs, IFC requires FIs to appoint two senior managers, one responsible for credit, the other for marketing and origination, to oversee the FI's participation in the guarantee program. This requirement is intended to assure that, first, the value of the guarantee as a reliable credit risk management tool is recognized in credit committee decision processes, and, second, that the guarantee product, and EE finance methods, are disseminated throughout the FI.

b) A related requirement is for the FI to prepare an EE finance marketing plan that includes a training program for branch loan officers and outlines the steps the FI will take to market its financial services in the EE sector. The TA program design has been expanded to include FI marketing and training more explicitly.

c) Legal documents in the underlying financings will also have provisions strengthened that commit program participants (including ESCOs and end-users) to share information necessary for post-installation project monitoring. FIs commit to this provision in the GFA but the commitment needs to devolve to parties to the underlying loan/lease and energy services agreements.

### 3. Guarantee Structure

a) Phase out the subordinated recovery structure and replace it with a parity guarantee structure in more mature EE finance market sectors. The parity guarantee approach is easier to manage and provides clearer risk sharing and incentives to the FI for good finance origination and post-closing management. With the addition of IFC resources as part of guarantee reserves, GEF funds can be adequately leveraged without using subordinated recovery guarantees.

b) More aggressive "claw back" provisions have been added to the GFA which allow IFC to reduce the Facility Liability Limit in a GFA in the event the FI fails to meet target levels of guarantee facility use. This provision allows IFC to reallocate and hence make better use of its program guarantee capacity. Further, IFC will preserve some FLL capacity to be allocated case-by-case to larger projects. These resources will be made available on a "first-come-first-served" basis to engender competition amongst FIs for available guarantee capacity. To engender competition amongst participating FIs, multiple FIs will be engaged immediately in the guarantee program in new CEEF countries and guarantee capacity will be preserved to allocate to those FIs which make best use of the program.

c) The maximum allowable individual transaction guarantee will be geared to the overall country guarantee program size, not the individual GFA FLL. This change will allow larger projects to be covered by guarantees, while still maintaining prudent portfolio diversification guarantee size limits, and will allow IFC greater flexibility in managing allocation of guarantee capacity amongst participating FIs.

d) Research will also be performed on relevant country central banking regulations to determine the extent to which the proposed guarantee can substitute for an FIs normal loss provisioning/reserve requirements; if participating FIs' reserve requirements can be reduced in proportion to the guarantee loss coverage, then the FI can enjoy lower provisioning requirements and therefore a higher return on equity for financing extended with guarantee support. This higher return on equity can be an important added motivation for FI participation in the program and may also translate to lower interest rates for borrowers.

e) On FI loans to ESCOs, IFC is still considering structuring the guarantee to cover end-user default to the ESCO. At present, the guarantee only covers ESCO default to the FI, so, the guarantee is not effective in mitigating end-user credit risk exposure assumed by the ESCO. Possible methods to address this issue include: (i) FI makes limited- or non-recourse loan, and the guarantee shares FI risk; (ii) the FI lends full recourse to ESCO but the guarantee is modified to define Event of Loss to include end-user default to ESCO; or (iii) the ESCO becomes a guarantee claim beneficiary.

4. Technical Assistance Program: Support for ESCOs

a) The TA program has been expanded to assist selected ESCO project developers in their own business planning and in raising corporate and project equity for their companies. This work is intended to build the capacities of ESCOs and hence the pipeline of projects for financing support via the guarantee. This program also addresses a concern that the guarantee program has reached prudent exposure limits on multiple loans to certain ESCOs; by increasing the ESCO equity base, the program can prudently expand its guarantee operations covering project loans to that ESCO. In addition, TA can be provided to ESCOs to assist them in structuring multi-project debt finance facilities with participating FIs.

b) SMEs interact with the guarantee and TA program in two ways: as energy users, SMEs receive financing supported by the program; and, as EE businesses many SMEs are involved in delivering EE equipment, projects and services. As EE businesses, SMEs are particularly involved in the residential thermo-modernization EE market. The TA program is being expanded to target these EE SMEs with business and finance training and to link them with participating FIs for project finance.

## Incremental Cost Analysis

### 1. Broad Development Goals and the Baseline

The relevant broad developmental goal of CEEF is the efficient provision of energy services. This is achieved by accelerating investment in energy efficiency through commercial private sector investments. CEEF's underlying premise is that the private sector is potentially well suited to undertake and finance profitable investments related to energy efficiency, once they have been made aware of the existing opportunities. However, it requires specific assistance in first identifying and assessing these opportunities and, second in overcoming institutional, financing and scale barriers. CEEF will use GEF funds to leverage substantial additional private sector capital for the energy efficiency (EE) market. Successful projects undertaken by CEEF's private sector collaborators will provide a multiplier effect by demonstrating the potential profitability of energy efficiency projects and ventures to commercial operators and FIs, hence making commercial financing resources more widely available in a sustainable way.

CEEF is designed to remove EE project development barriers, particularly in the financial sector of participating countries. Electricity and fuel saved through wider use of EE investments will reduce greenhouse gas (GHG) emissions associated with their use. This will also assist the CEEF countries in their efforts to reach targets of energy intensity, energy price rationalization, emissions, and macroeconomic indicators associated with their EU accession goals.

Expanded investment in EE offers national economic and environmental benefits for the participating countries including but not limited to the following: (i) avoided capital costs for new power and transmission/distribution capacity; (ii) reduced foreign exchange costs for fossil fuel imports; (iii) reduced state deficits from direct and indirect energy costs; (iv) reduced energy and electricity costs to end users and (iv) cost-effective reductions of global GHG emissions and local pollutants.

The baseline scenario implies increased CO<sub>2</sub> emissions through economic growth as well as the relatively small level of existing EE investment at present resulting mostly from limited existing subsidy programs and constrained by a lack of commercially-available debt financing for EE projects. The intensive use of fuel oil and other hydrocarbon-based fuels in inefficient technological processes as well as heating and combustion processes results in higher fossil fuel imports and constraints in economic development.

### 2. Global Environmental Objective

The global environmental objective of CEEF is to decrease emissions of GHGs associated with fuel use and electricity generation. By decreasing electricity consumption, CEEF will enable participating countries to avoid the emission of an estimated 3.4 to 9.9 million metric tons of CO<sub>2</sub> from additional adoption of EE technologies over a ten year time period.

Participating CEEF countries each recognize the importance of EE goals and have incorporated EE aspects into their national energy plans. However, the limited impact and non-sustainability of

subsidy-based approaches lacks the greater leverage and sustainability of CEEF's targeted focus on supporting the development of enhanced commercial private sector investment.

### **3. Alternative**

The proposed GEF alternative, the implementation of CEEF, will assist participating countries in achieving EE objective by catalyzing an active and sustainable competitive market for EE project development and finance. Various estimates indicate a technical and economic potential to save 20-30% of total energy consumption through EE projects in the CEEF countries. These typically have simple pay-back periods in the range of nine months to five years for the portfolio of projects determined to be commercially viable by the private sector actors who will implement CEEF.

The Program's main objective is to build local capacity with potential ESCO firms and respective local FIs. Through its activities, the Program will directly support the implementation of cost-effective EE projects and indirectly promote a commercially sustainable EE project development and finance market.

### **4. Scope of the Analysis**

The GEF Alternative will primarily affect the participants in current EE market, including the FI partners, the businesses which deliver the EE equipment and projects and services, and the energy end-users whose equipment and facilities are improved. In general, increased EE investment will shift production, investment and consumption patterns away from current energy supply patterns and toward efficient use. Macroeconomic studies in North America and Western Europe indicate that such a shift can result in increased employment opportunities, all other things being equal. Reduction in energy imports into participating countries may also result, with consequences outside the national boundary. No other adverse consequences are foreseen.

In addition to the macroeconomic benefits cited above, expanded investment in EE will contribute to reduced local and regional air pollution and its related economic, social and health benefits; economic development and job creation for domestic equipment manufacturing; mechanical and electrical contracting, engineering services and financial services firms; and accelerated transfer of EE technologies.

### **5. Costs**

The costs of the EE investments facilitated by the CEEF are estimated at between \$112.5 million (under best case assumptions) and \$39.3 million (a very conservative scenario in which only one-third of the potential investments supportable under the guarantee facility are made). As presented earlier in the Project document, actual net incremental costs to the GEF may range from \$5.25 million (under the most likely scenario whereby a \$45 million guarantee facility experiences 5% bad debt on the lending portfolio it supports) to \$18 million (under a highly pessimistic scenario whereby all guarantee funds are used). The program will support implementation of EE projects which would likely not otherwise be implemented due to institutional and financial barriers and the incremental risks perceived by FIs for a loan market in which they have limited experience.

The modalities for utilizing and transferring the requested \$18 million in GEF funds and the terms and conditions controlling their use have been developed on the basis of : (i) standard procedures that IFC and the participating FIs use to conduct business with the private sector; (ii) relating the GEF-funded grant element of the financing to the actual incremental cost of administering the program; (iii) providing commercial incentives to encourage financial innovations in the interest of the global environment combined with appropriate risk management in the interests of cost-effectiveness, financial sustainability, and future replicability; and (iv) ensuring that GEF funds will in no case be used to exceed the “financing gap” (the amount of required credit support/enhancement via a guarantee that cannot be otherwise obtained from commercial sources).

The direct incremental costs associated with the Project will be financed in several ways. The GEF contribution is matched by IFC and bilateral resources totaling from \$32.85 to \$77.85 million, depending upon market demand for the guarantees. The \$3 million in GEF-funded program management administrative costs, monitoring and evaluation (M&E), and technical assistance represents a direct incremental cost to IFC and the participating FIs to participate in the Project. The expenditures will not be recoverable and thus an eligible GEF incremental cost. In addition, \$15 million of GEF resources will be put into a risk position to partially guarantee loans generated from the program. Of the amount, it is likely that \$12.75 million will remain unused at the close of the project, assuming a projected loss rate of 5% of the loan portfolio supported by guarantees. In a worst case scenario, all \$18 million of GEF resources would be expended, although this is neither likely nor a reasonable expectation given IFC experience with HEECP.

In accordance with the guidance of the UNFCCC, the GEF approach to incremental costs allows the justifiable level of incremental costs incurred in this project to be financed in full. Estimates of incremental cost, and their incidence, form the basis for the amount of grant (or grant equivalent funding) made available by GEF. These are discussed further below.

There are two categories of incremental costs to be met by the CEEF Program: (i) direct incremental costs; and (ii) FI incremental costs, as follows: (i) direct incremental costs are additional costs incurred by IFC and participating FIs associated with implementing CEEF; these include TA services, program administration, M&E training, and new procedures established and the associated costs incurred in the Project's execution. (ii) indirect incremental costs include higher FI transaction costs associated with processing and supervising an unfamiliar portfolio of EE investments-specific support by participating FIs that will be financed directly by CEEF through the TA program. In addition, incremental costs incurred by the FIs associated with the higher perceived risks for EE loans originated will be financed by IFC and GEF through the loan guarantee facility. It is expected that as the participating FIs become familiar with EE financing through this program that the level of incremental costs will decline and no longer require Project support.

Because the actual performance of the loan portfolio supported by the guarantees is not known, there is no firm basis for estimating a priori the amount of actual incremental cost to be met by the GEF funds under CEEF. It will be only after a period of actual loan portfolio performance (3-5 years) that good information on actual outcomes will be available. However, based on experience from HEECP and country conditions in the CEEF countries, IFC estimates conservatively that 5% of the loan portfolio could result in non-performing loans, thus necessitating in an average case between \$2.25 -

\$5 million of the \$15 million GEF contribution to the facility will constitute the incremental cost to the GEF, depending upon an ultimate facility size which will range from \$45-90 million.

## 6. Incremental Cost Matrix

Attached is an Incremental Cost Matrix and accompanying notes. The matrix reflects the incremental cost discussion above and the analyses and cost information provided earlier. It should be noted that the estimates of CO<sub>2</sub> emissions reduction only account for projects *directly* supported by the guarantees. They do not include emissions reductions resulting from EE projects *indirectly* induced by the Project's catalytic TA activities and its contribution to creating a sustainable EE finance market. Included in expected indirect effects, based on experience from HEECP, are a number of EE project financings – some of which result directly from the TA program – which are financed by participating FIs without utilizing the guarantee facility, as well as long term, post-Project investments developed by ESCOs and FIs who entered the market as a direct result of CEEF.

## 7. Process of Agreement

The primary technical counterparts for Project implementation are the partner FIs. The amount of EE investments which the Project will facilitate has been estimated in consultation with prospective FI partners as well as ESCOs' and both governmental and non-governmental agencies working in the EE sector of the CEEF countries. The general structure and terms of the proposed agreements with Project FI partners, the manner of reaching agreement, and the manner for development and origination of transactions are described more fully in the Project Brief.

### Summary Incremental Cost Matrix -- CEEF

	<b>BASELINE</b>	<b>ALTERNATIVE</b>	<b>INCREMENT</b>
<b>Global Environmental Benefit</b>	(1) 51 – 95 million tons CO <sub>2</sub> avoided	(2) 58.4 – 102.4 million tons CO <sub>2</sub> avoided	3.4 – 9.9 million tons; 7.4 million tons CO <sub>2</sub> avoided is most likely scenario
<b>Domestic Benefit</b>	Energy Services Demand Satisfied	Energy Services Demand Satisfied at a lower cost	Energy cost savings
<b>Costs (expenditure items)</b>			
• <b>EE investments</b>	(3) \$560 million - \$1.04 billion invested in EE over 4 year period in CEEF countries	(4) \$599.3million - \$1.162 billion invested in EE over 4 year period in CEEF countries	(5) \$39.3 - \$112.5 million cost of EE investments, including expected GEF cost of \$2.25 million in guarantees called on non-performing loans;
• <b>TA/ Admin/ M&amp;E Costs</b>	\$0	\$5.85 million, (including GEF \$3 million)	(6) \$5.85 million, (including GEF \$3 million)
○ <b>Total Costs</b>	\$560 million - 1.04 billion	\$ 605.25 million - \$1.242 billion	(7) \$45.15 million - \$118.35 million

**NOTES:**

1. Baseline emission level assumed from estimates of existing levels of EE compiled during pre-appraisal. Estimate derived from investment activity levels indicated by FIs, ESCOs, development agencies and NGOs active in the sector, plus national investment plans developed by national governments, where available.
2. Baseline emission ranges less the incremental savings produced by CEEF under most likely case scenario.
3. Assumptions made are based on existing EE investment pipelines identified during pre-appraisal and exclude capital costs from district heating system privatization. Baseline of (i) \$40 - \$60 million per year (Czech Republic) (ii) \$25 - \$50 million per year per country (Slovak Republic and the three Baltic countries) in EE investments for a period of four years with no intervention by CEEF (BAU=business as usual).
4. Assumes that a possible range of Project outcomes ranging from \$39.3 million to \$112.5 million in new EE investment is stimulated by the GEF alternative with these new EE investments drawn from the liquidity of existing investment funds (equity) and FIs (debt) in the CEEF countries, and that the \$560 million-\$1.04 billion of BAU EE investments also occur.
5. Incremental EE investments associated with a \$15 million GEF guarantee facility contribution range from \$39.3 million (only 35% percent of total EE investments are realized) - to \$112.5 million (100% of total EE investments are being realized). The incremental costs associated with GEF losses from the guarantee facility range from \$3.0 (zero losses) to \$18 (10% losses) million, depending on the volume of loans guaranteed and the losses from those loans; this does not include IFC's potential losses in the guarantee facility. IFC conservatively estimates 5% losses on a \$90 million loan portfolio (assuming a \$45 million guarantee facility), which amounts to \$2.25 million in losses from the guarantee facility.
6. The total of \$5.85 million consists of \$3 million in GEF contribution to CEEF admin, M&E, and TA plus the \$2.85 million in IFC and bilateral donor contributions.
7. The incremental costs to be met by GEF funds can range variously from: (i) \$3 million (admin/TA/M&E costs only) if all guarantee funds are returned to GEF; (ii) \$5.25 million in a conservative case of 5% bad debt for loans guaranteed under a \$45 million facility (reflecting an IFC parallel investment of \$30 million alongside GEF funds); (iii) A complete loss of the GEF's \$18 million in the highly unlikely worst case scenario. This would occur if all \$90 million in first tranche (IFC) loans extended are fully called without any debt service having been completed.

**Incremental Cost and Benefits Matrix**

	<b>Baseline</b>	<b>Alternative</b>	<b>Increment</b>
<b>Domestic Benefits</b>	<p>Heavy hydrocarbon based fuel usage in the heating sector and for a portion of electricity generation (varies by country).</p> <p>Barriers to EE projects cause high fuel usage and inefficient industrial processes, hindering economic development and investment in productive uses.</p> <p>Lack of readily available EE financing restricts EE investment to low level.</p> <p>High unemployment and low EE project development capacity by ESCOs and FIs.</p>	<p>Increased penetration of EE technology improves energy intensity of economy and yields lower environmental and health costs from an active economy.</p> <p>Increased investment in EE enables capital preservation for investment in the productive economy and a more productive energy using sector, including more comfortable housing.</p> <p>Local capacity building through technical assistance results in the development of domestic ESCO businesses and FI expertise with EE project financing. FIs more willing to finance EE.</p> <p>More productive jobs in the domestic service and manufacturing sectors, market development &amp; competitive mrkts for FIs and ESCOs</p>	<p>Less local and regional air pollution</p> <p>Higher competitiveness of the private sector through lower production costs.</p> <p>Increased EE investments and increased capacity for sustained EE investment in the future.</p> <p>Less unemployment and increased capacity to develop EE projects.</p>
<b>Global Benefits</b>	<p>Current level of EE investments in CEEF countries reduce CO<sub>2</sub> emissions from heat and electricity to between 51 to 95 million metric tons of CO<sub>2</sub>.</p>	<p>Expanded EE investments yield between 58.4 and 102.4 million metric tons of CO<sub>2</sub> emissions reductions.</p>	<p>An additional 3.4 to 9.9 million metric tons of CO<sub>2</sub> emissions eliminated through additional EE investments; 7.4 million tons is the most likely scenario.</p>

	<b>Baseline</b>	<b>Alternative</b>	<b>Increment</b>
<b>Costs</b>	Investments in EE in CEEF countries of between \$560 million and \$1.04 billion.	Investments in EE in CEEF countries increase to between \$599.3 million and \$1.16 billion. In addition, total Project incremental costs will range from \$3 to \$18 million, depending upon actual losses from the guarantee portfolio. (Most likely case will be \$5.25 million in total Project costs.)	Additional EE investment costs of \$39.3 to \$112.5 million metric result from the Project.  Incremental Costs of implementing CEEF expected to be \$5.25 million (\$2.25 million projected losses and \$3 million GEF TA/Admin.) under the guarantee program.

**Projected Disbursement Schedule**

<b>USE OF GEF FUNDS</b>	<b>PROJECTED DATE</b>	<b>PROJECTED AMT.</b>
1. Loan guarantees <sup>14</sup>	Intermittent 1/04-1/15 <sup>15</sup>	Avg. = \$100,000 <sup>16</sup> Total = \$2.25 million <sup>17</sup>
2. Technical Assistance/M&E	Quarterly 6/03-12/06 (15 disbursements)	Avg. = \$66,666 Total = \$1.0 million
3. Program Operations	Weekly – 11/02-1/07 [expenses/salaries directly debited from trust fund acct]	Total = \$2.0 million

<sup>14</sup> Assumes 5% losses on total facility size of \$45 million, consistent with projections of incremental cost analysis and GHG reductions projections.

<sup>15</sup> Assumes that the first loss claim from a participating FI occurs 1 year after first GFA is operational and that loss claims continue until the expiration of last loan supported under the facility (an 8 year loan term which originates on the last month of the 4 year program operations period).

<sup>16</sup> Assumes average loan size in the facility of \$200,000 and 50% guarantee.

<sup>17</sup> Assumes that remaining \$12.75 of GEF guarantee reserves would remain at project's end

Project Design Summary (Logical Framework)

Narrative Summary	Key Performance Indicators	Monitoring and Evaluation	Critical Assumptions
<p><b>(a) Sector-Related Country Assistance Strategy (CAS) Goal</b></p> <p>CEEF addresses respective country CAS goals related to environmental protection and private sector development.</p> <p>CEEF will directly support the EU accession goals in the CEEF countries.</p>	<ul style="list-style-type: none"> <li>• Increases in EE projects undertaken by the private sector.</li> <li>• Increased FI lending for EE projects</li> </ul>	<ul style="list-style-type: none"> <li>• M&amp;E program, including baseline data defined, investment project assessment, process and impact evaluations.</li> </ul>	<p>Assumes:</p> <ul style="list-style-type: none"> <li>• Stable or growing national economies (including moderate interest rates and continued liquidity in FI sector).</li> <li>• Accelerated pace of energy price rationalization in the CEEF countries.</li> <li>• Full use of \$45 million guarantee facility by participant FIs.</li> <li>• Active ESCO market growth in target countries.</li> </ul>
<p><b>(b) GEF Operational Program Goal</b></p> <p>Reduce greenhouse gas emissions.</p>	<ul style="list-style-type: none"> <li>• Greenhouse gas emissions avoided through reduced thermal energy consumption and conversion to less Carbon – emitting fuels and reduced methane emissions.</li> </ul>	<p>Same as above. Will include in the monitoring program an avoided GHG evaluation of each transaction under the facility.</p>	<p>Same as above.</p>

<p><b>(a) Project Development Objective</b></p> <p>Accelerate the development of the EE finance market in participating countries.</p>	<ul style="list-style-type: none"> <li>• Volume of EE finance mobilized.</li> <li>• Aggregate growth in number of EE projects and ESCOs in participating countries.</li> <li>• ESCOs able to raise debt for project finance.</li> <li>• SME ESCOs active as EE developers able to raise equity to grow their operations.</li> <li>• Local FIs develop and grow businesses financing EE projects</li> </ul>	<ul style="list-style-type: none"> <li>• Market reports;</li> <li>• M&amp;E program as described.</li> </ul> <p>-- impact evaluation</p>	<p><b>(Objective to Goal)</b></p> <p>Assumes</p> <ul style="list-style-type: none"> <li>• Macroeconomics favor investment generally</li> <li>• Price rationalization continues to improve economics of EE investment.</li> <li>• ESCOs and FIs respond to TA and emergence of EE market</li> <li>• EU accession reforms continue in the CEEF countries</li> </ul>
<p><b>(b) Project Global Objectives</b></p> <p>Greenhouse gas emissions reductions via removal of barriers to implementation of energy efficiency projects</p>	<ul style="list-style-type: none"> <li>• Decrease in greenhouse gas emissions based on decrease in : i) use of fuel oil, coal, and other hydrocarbon based fuels in the commercial, industrial, public sector; (ii) electricity from thermal sources</li> </ul>	<ul style="list-style-type: none"> <li>• Energy sector / EE studies for target markets</li> </ul> <p>M&amp;E mid-term and final evaluation reports (derived from avoided GHG evaluation of each transaction under the facility.)</p>	<p>Same as above</p>

<p><b>Project Outputs</b></p> <ul style="list-style-type: none"> <li>• (i) substantially increased volume of EE investment</li> <li>• (ii) local capacity building with potential local ESCO firms and FIs improves capacity of FI and ESCO industries to develop EE investments in CEEF countries;</li> <li>• (iii) partial guarantee facility generates lending from local FIs for EE projects</li> <li>• (iv) FI participation in guar. Facility yields sustained lending for EE in the market with <i>and</i> without use of guarantees.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in number of EE projects.</li> <li>• Increase in volume of business done by ESCOs in target countries and increase in EE finance products.</li> <li>• Increase in \$'s lent for EE projects.</li> <li>• Increase in number of FIs lending for EE</li> <li>• All indicators sustained post-program (without guarantees available)</li> </ul>	<ul style="list-style-type: none"> <li>• Consumer / Market Surveys</li> <li>• Project management reports, participation reports from TA and guarantee facility portions of Project.</li> </ul> <p>Value of GFAs implemented, Lending reports of participating FIs, \$ value of projects supported by the guarantee facility.</p>	<p><b>(Outputs to Objective)</b></p> <p>Assumes</p> <ul style="list-style-type: none"> <li>• Existence of local private sector actors interested in pursuing EE projects (ESCOs, local FIs, etc.)</li> </ul>
<p><b>Project components/ Subcomponents</b></p> <p>(main activities that must be undertaken in order to accomplish the results)</p> <ul style="list-style-type: none"> <li>• Capacity building and TA with potential ESCOs and FIs</li> <li>• Partial guarantee facility to be provided to local FIs for financing of the projects – execution of GFAs with participating FIs</li> </ul>	<p><b>Inputs</b> (resources provided for project activities)</p> <p>GEF resources:</p> <ul style="list-style-type: none"> <li>• \$3.0 million for TA, Project administration, and M&amp;E;</li> <li>• approximately \$15 million for partial guarantee</li> </ul> <p><b>Total: \$18.0 M</b></p> <p>Total Project Resources:</p> <ul style="list-style-type: none"> <li>• \$5.1 million for TA, Project Admin., and M&amp;E</li> <li>• \$45-90 million for guarantee facility</li> </ul> <p><b><u>Total: \$50.85-\$95.85 million</u></b></p>	<ul style="list-style-type: none"> <li>• IFC investment reports</li> <li>• IFC Trust Fund Annual Reports</li> </ul>	<p><b>(Components to Output)</b></p> <p>Assumes:</p> <ul style="list-style-type: none"> <li>• TA is effective in developing EE projects;</li> <li>• TA is effective in catalyzing ESCO businesses.</li> <li>• Pipeline and TA is effective in catalyzing local FI interest in the market</li> <li>• TA supports FI institutional development</li> </ul>

IGarcia

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September 23, 2002

Mr. Russell Sturm  
International Finance Corporation  
Environmental Finance Group  
Environment and Social Development Department  
2121 Pennsylvania Ave., N.W.  
Washington, DC 20433

Dear Russell:

This letter is to confirm the present status of co-funding commitments for the IFC/GEF Commercializing Energy Efficiency Finance (CEEF) program from a variety of government trust funds administered by the Trust Funds department on behalf of IFC.

The process of fund-raising for CEEF has been quite rewarding. The themes represented by CEEF are compelling to quite a few of our government sponsors. In addition to those governments already approached to support CEEF, one additional potential donor with a specific interest in supporting EU-accession processes is distinctly interested in CEEF, but we have chosen not to provide a proposal to them at this stage; we could do so if there were need. The environmental benefits of the project represents another appealing aspect of the project for another set of donors which we can further pursue if additional need exists.

In the short term, however, we have met IFC's target of US\$1.35 million in co-financing for the technical assistance and monitoring and evaluation needs of the CEEF program. We have received in-principle support commitments from the Spanish, American, and Finnish Government Trust Funds totaling \$1.137 million dollars. In order to meet additional needs, including an event in which some of this funding were to be smaller than expected and if we were unable to find substitute donor funding, we are prepared to support CEEF with up to \$200,000 per year over the life of the four year project from the discretionary IFC Trust Fund – a fund which we control and which is supported directly by a set-aside from the Corporation's profits. This means an additional IFC contribution of up to \$800,000, if it is needed in order to meet IFC's commitments to GEF.

It has been a pleasure working with you on this groundbreaking joint IFC/Global Environment Facility project. The GEF support has been critical in mainstreaming this innovative investment within IFC's operations. CEEF serves as a flagship for IFC's efforts to mainstream sustainability in the business operations of the Corporation. I look forward to collaborating with the Environment Department in the future as we continue to build replicable models for sustainable development investment.

Sincerely,



Uday Wagle  
Director  
Trust Funds Department