DOCUMENT OF

THE INTERNATIONAL FINANCE CORPORATION

FINANCING ENERGY EFFICIENCY IN THE RUSSIAN FEDERATION

GEF Project Brief

July 2004

Financing Energy Efficiency in the Russian Federation (FEER)

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1. Project Development Objective

1.1. GEF Strategic Priorities

In its program "A highly energy efficient economy" the Russian Ministry of Energy has identified investment needs of 274.5 billion Euro to decrease the energy intensity of the Russian economy while continuing to provide sufficient energy to meet the needs of its population and sustain economic growth. This amount is split into three sub-programs: energy efficiency of the energy sector (250 billion Euro), security and development of the nuclear industry (17 billion Euro) and energy efficiency of energy consumption (7.5 billion Euro).

The Russian Government expects that around 92% of the investment costs involved in this program will come from non-budgetary sources i.e. enterprises, financial sector and residential consumers. *To achieve this target it is essential that a market for energy efficiency products and services develops, and that Russian financial institutions provide long term lending for the energy efficiency projects that result from the market development.*

The proposed FEER program, is a pilot initiative to increase the flow of capital to energy efficiency projects from Russian financial institutions. The program the GEF strategic priority CC-2 Increased Access to Local Sources of Financing for Renewable Energy and Energy Efficiency.

CC-2:Increased Access to Local Sources of Financing for Renewable Energy and Energy Efficiency

The technical potential for energy efficiency in Russia is clearly substantial. However, when thinking of investment priorities, industrial managers typically focus on increasing production capacity and turnover. They often lack awareness concerning the benefits of energy efficiency. This information gap is matched in Russian financial institutions and has lead to them being unaware of the strong financial benefits inherent in this type of project, which, can in fact, make them a better credit risk than other production related projects.

There are three major factors that have contributed to this information barrier in Russia:

(i) EE has never been an area of major priority in Russia until recently because of the low energy prices and inexperience in making realistic cost/benefit calculations.

(ii) There has been limited effective dissemination of the results of demonstration projects undertaken to date.

(iii) Those responsible for communicating the benefits of EE to different stakeholders are only now developing the skills needed to target specific messages in the right way to the people who matter.

By addressing the information barriers on both the financing and implementation sides of an energy efficiency transaction, the FEER program aims to transform both the financing market (see below) and the market for supplying energy efficient products and services. The FEER program of technical assistance will raise awareness among energy investment decision makers, thus, stimulating demand, while also building capacity among project developers and the finance sector to develop, structure and approve commercial EE transactions.

Up to now, the Russian financial community has not engaged in financing energy efficiency projects to any meaningful extent. The main barriers, described in more detail in Section 2.1, are:

- high transaction costs
- lack of project finance skills
- lack of long-term funds
- lack of information

Drawing on the TA support templates developed by IFC in Central Europe, the FEER program will undertake activities that build capacity in Russian financial institutions and transform their lending activities so that they: a) understand that energy efficiency projects are viable investments that improve the financial stability of their clients and reduce the banks' overall risk exposure; b) examine standard industry- related loans and leases from an energy efficiency perspective; c) actively build a portfolio of energy efficiency projects

In its Hungary Energy Efficiency Co-Financing Program (HEECP) and Commercializing Energy Efficiency Finance Program (CEEF) IFC has, with substantial GEF support, developed a model for engaging FIs with a package of TA and risk mitigation instruments in order to stimulate a self-sustaining EE financing market. IFC's diagnosis of the Russian market (see Annex 6 for a comparison of Russian and Hungarian market conditions for EE investment) is that, in Russia, the TA and risk instruments must be supplemented with a credit tool to achieve a similar transformational impact. The FEER program is therefore an important demonstration vehicle in its own right.

1.2. Project development objective and key performance indicators

The Program's foremost goal is to establish a sustainable market capacity in Russia to develop and finance commercial investments which increase the efficient use of energy or enable the use of new energy resources (renewable and other) which emit a reduced level of greenhouse gases.

A study completed by IFC in 2003 on financing options for energy efficiency investments in Russia[1] concluded that despite the large potential in Russia for financially viable EE investments, only a few of those investments are actually being undertaken. The reason for the lack of development of EE investments in Russia is a combination of

[1] See Annex 14 for the Executive Summary. Full report available on request from IFC.

the following three factors: lack of longer term capital for energy efficiency (and other) capital investments; lack of understanding of how to evaluate energy efficiency investments on the part of Russian financial institutions leading to a heightened perception of technical risks associated with these projects; lack of experience in structuring energy efficiency investment projects by Russian industry accompanied by limited experience among local consulting engineering organizations that can provide assistance.

The FEER Program addresses each of these barriers through targeted credit lines, which can only be used for financing energy efficiency projects, partial credit guarantees for financial institutions, intensive technical assistance to financial institutions to help them build an energy efficiency loan portfolio, and technical assistance to project developers to ensure that the FIs see adequate, well-prepared deal flow. IFC anticipates that the initial focus of the program will be on industry sectors where the FIs are already actively lending, and where the Program can build knowledge, experience and, crucially, confidence in the principals of energy efficiency finance. Subsequently, the FIs can expand the scope of their energy efficiency financing activities into other sectors such as municipal heating, residential blockhouse refurbishment or renewable energy projects. A fundamental principal of the program, however, is that the participating FIs will define the sector focus – not IFC.

In this Program, the provision of credit lines or issuance of transaction guarantees is not the principal objective, but the demand for the credit lines is one of several indicators of program success. The credit lines and guarantees are simply a means to an end, and one of the primary tools (along with TA) which IFC will utilize under the Program in order to build an experience base and capacity in the market to mobilize commercial financing for such investments.

Parallel objectives are to:

(i) promote the entry of domestic FIs in the EE financing market, build greater experience and capacity of domestic FIs to provide EE project finance, provide more favorable credit conditions to borrowers, and promote financial innovation in this market;

(ii) build capacities of the commercial EE/ESCO[2] industry and accelerate development of the EE market generally;

(iii) continue development of non-grant contingent finance tools for the GEF, thus achieving greater levels of effective leverage of GEF funds and greater impact in less developed markets;

(iv) continue to mainstream EE finance into the commercial operations of IFC by demonstrating viability, refining business models, and streamlining administrative and management procedures which leverage IFC's capacity

[2] Throughout this proposal IFC takes the broad definition of Energy Service Company (ESCO) to any company that can be any third party energy efficiency project developer. This can include maintenance companies, boiler distributors, etc. as well as, but not restricted to, energy performance contracting companies or suppliers of third party finance for EE projects.

and enable efficient processing of the relatively small individual transactions which comprise a typical EE project portfolio;

(v) working with partner FIs to pioneer specialized financial products which address previously-undeveloped market niches and are replicable by FIs in other markets.

The ultimate impact of the proposed investment/TA project will be the improved energy efficiency (EE) and profitability of Russian companies, leading to a reduction in greenhouse gas emissions. This will be accomplished by creating an awareness in Russian financial institutions that energy efficiency projects are (a) financially viable and (b) improve the risk profile of the client by reducing operating costs. The Project will work with the participating financial institutions to "deepen" the Russian financial markets, making longer term capital available for EE investment.

The immediate objective of the IFC/GEF investment project is to encourage private sector financing of energy efficiency projects in Russia in three pilot regions – Moscow surroundings, managed from a central team based in Moscow; the Urals, managed from a hub office in Ekaterinburg; and one other region, operating from a similar hub (to be identified during year one of operation). This will be accomplished using the three-pronged approach shown in Figure 1-1: IFC will provide select Russian financial institutions (FI) with long term finance required for on-lending to EE projects. The availability of long-term capital is a critical component of EE finance, yet since the Russian financial crisis of 1998 loan terms longer than one year have been scarce. The investment facility will be structured based on IFC/GEF extensive experience with setting up similar facilities in Central and Eastern Europe.

Barrier		**Program element**
Lack of Long Term Liquidity		Dedicated Credit Lines
High risk perception/lack of experience		Partial guarantee applied to portfolio of projects
Lack of Project Preparation skills		Technical assistance package

Figure 1-1: Three pillars of the Investment/TA Project

In Russia, however, the market for energy efficiency investments is still in a nascent stage of development. A more extensive technical assistance package than has been used in other IFC/GEF energy efficiency initiatives is therefore required to make the investment facility successful. This is the focus of the GEF investment. IFC has already leveraged substantial co-funding for this TA program, contingent upon the GEF support.

The success of the Program is defined by the level of sustainable commercial lending spurred by these three activities. The most important indicators of success are:

- Number and volume of EE projects financed by the participating FIs (with or without dedicated credit lines and guarantees)
- Number and volume of projects where EE aspects have been enhanced using TA
- Amount of long term credit being accessed from other sources and being used for EE projects
- Number of financial institutions applying to be included in credit line or guarantee facility
- Number of financial institutions who establish lending businesses or specialized EE finance products
- Growth of vendors of EE equipment who have relationships with partner FIs
- Growth in number and performance of ESCOs doing business with partner FIs

1.3. Expansion in scope of lending from industrial to municipal and residential EE projects: a multi-phased approach

One of the Program's clear objectives is to examine whether the non-grant financing mechanisms promoted in FEER offer a viable solution to barriers that prevent financing of energy efficiency projects in countries where the commercial financial markets have previously not been mobilized because of perceived lack of development.

FEER, therefore, needs to be seen as a pilot program. In this first phase IFC assumes that under certain conditions (reasonable tariff structure, enforceability of contracts, presence of enthusiastic financial institutions, local competition between industrial enterprises) commercial financing can be used to fund energy efficiency projects. The applicability of these conditions varies greatly across the Russian Federation. IFC will therefore start in three regions (Moscow and its surroundings, the Urals and one other region to be defined during the first year of operation) where IFC's assessment indicates that conditions are adequate to enable commercial lending for EE projects. During this pilot IFC will document progress in these regions and continue to adapt and evolve IFC's FI market development model to the Russian market. The key indicators of success will be the increase in lending activities by partner banks in the selected regions and a voiced desire by them to expand their activities into other regions. IFC can then identify those other areas within Russia where the conditions are similar and where the approach can be replicated.

IFC already anticipates that in order to make a more substantial national impact in the Russian market IFC will need to implement a second phase. The second phase would look to expand the scheme into more frontier markets within Russia both in terms of geography (same types of project in new regions) and sectorally (new, more difficult types of project in the same region).

Once the pilot phase of FEER provides confirmation of the viability of the approach in Russia, IFC would seek funding from a wide range of donors, including the GEF, for a second phase of operations. IFC will undertake a substantial integrated monitoring and evaluation program in parallel with program implementation. This will provide real-time

information to enable better program management, as well as inform the development of expanded activities in the Russian market.

2. Strategic Context and Project Rationale

2.1. Country Drivenness–

Demand from the Financial Community

Recognizing the potential role for IFC in the emerging Russian energy efficiency market, in 2002 the IFC's Private Enterprise Partnership (PEP), a technical assistance program focused on small and medium-sized enterprise (SME) development in the CIS, commissioned a review of financing options for energy efficiency investments in Russia. The main findings were:

- Russia has a large potential for energy efficiency investments.
  - the energy consumption of Russian industry exceeds levels in analogous companies elsewhere in the world by 40-220%. As a result, potential EE savings for Russian industry have been estimated at $24.2 billion annually.
  - Russia's energy sector is currently undergoing reform and energy prices are likely to continue rising in the future, making investments in EE increasingly more attractive and stimulating new interest in energy cost savings.

- EE investments in the industrial sectors will drive the market due to the system of cross-subsidization of the residential sector by industry.

- Although some EE investments are already taking place, the market is nascent.

- Significant regional differences in energy costs exist across Russia, thereby making EE investments in some regions more attractive than in others.

- Investments are mostly undertaken with companies' own funds rather than through the financial sector. This is in part due to the high cost of debt finance.

- Three further barriers to FI financing of EE projects are:
  - the lack of long-term funds in the financial sector to invest in EE projects;
  - the lack of understanding of how to evaluate EE investments on the part of the FIs and hence a heightened perception of risk; and
  - the lack of experience in structuring EE investment projects by local companies combined with a scarcity of competent local consultants and/or ESCOs who could assist potential clients.

- A IFC/GEF partial credit guarantee facility similar to those implemented in Central Europe would not by itself be a sufficient solution to encourage Russian FI investment in EE. Long term financing instruments and a significant TA package must be coupled with a guarantee product to drive the market development.

In preparing their report the consultants interviewed the Russian financial community which, already at that time, expressed interest in the approach that IFC had adopted in Central Europe. This message from the financial community was reinforced at a series of meetings between IFC and leading banks and leasing companies in Moscow, Nizhny Novgorod and Ekaterinburg in July 2003. However, at this time it became clear that an energy efficiency financing program in Russia had to address significantly different financing barriers than the programs in Central Europe. There was also an obvious confusion among FIs over what exactly energy efficiency investments could look like.

IFC's response to this confusion was to hold a one-day seminar for Russian financial institutions on energy efficiency financing. The training provided a description of EE projects and EE financing structures, emphasizing its practical financial benefits to the end-user, its commercial potential and explaining the profile of EE projects which are likely to be suitable for the particular FIs. The audience consisted on 46 people representing 13 financial institutions, 4 multilateral development agencies (EBRD, IFC, UNDP, EU), 4 energy efficiency project developers. There was a high degree of interaction between speakers and the audience leading to lively discussions. The feedback from the seminar, summarized in Table 2-1 below, shows a high level of interest from the financial community in an EE financing program.

Question (and scoring system)	Average Score
Workshop Feedback	
Appropriateness of Information (1 not relevant, 3 Highly Relevant)	2.8
Can you apply the received knowledge at work? (1 not relevant, 3 Highly Relevant)	2.2
Do you think the EE financing is an important business area for you? (1 not relevant, 3 Highly Relevant)	2.5
Would you be interested in more specific courses on the subject? (Max 1)	0.9
Is your financial institution interested in expanding financing of EE project during the next 3 years? (Max 1)	0.9
Requests for tailored training for energy efficiency lending (1 least required, 5 most required)	
Training of credit officers on EE project evaluation	4.0
Market reviews of the selected sectors	3.9
Available database of vendors of EE equipment	4.1
Tailored advice on selected issues related to EE lending	4.3
Test model deals on a pilot basis with partially subsidise energy audit etc	3.8
Partial guarantee of EE lending	4.4
Credit line from the IFC dedicated for EE lending	4.6

Table 2-1: Feedback from IFC EE Training Seminar for FIs

Subsequent to the workshop, IFC held a number of meetings with FIs to explore their interest in developing energy efficiency financing as a product line. The FIs with which IFC met – all of which were pre-screened as viable institutions with substantially well-developed credit practices – displayed a remarkable level of interest. Most demonstrated a market strategy based upon their individual comparative advantages which was impressive at this early stage of engagement. Figure 2-1 summarizes the range of interests indicated by the FIs:

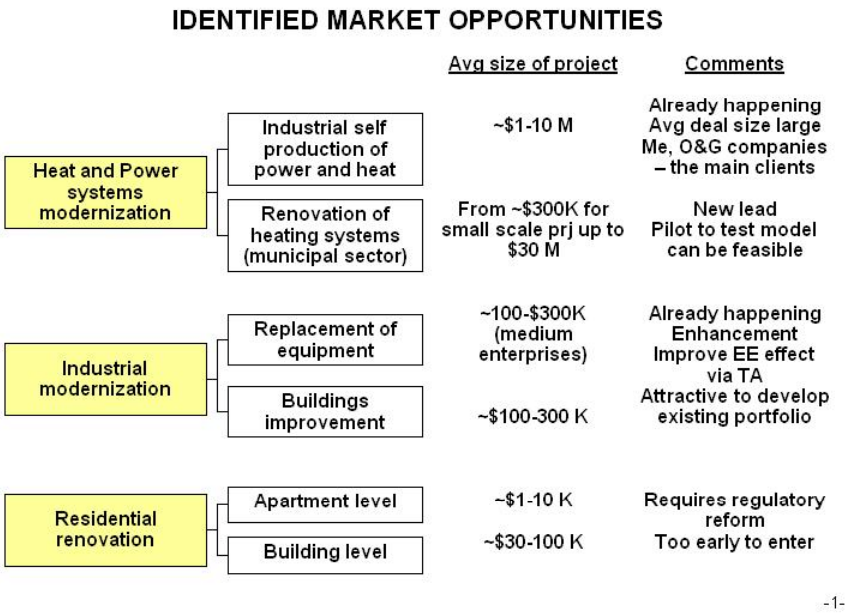

Figure 2-1: EE Sectors identified by FIs

Subsequent to these meetings two FIs in particular have continued to correspond with IFC regarding project opportunities.

Russian Government Policy

The "Main Provisions of the Russian Energy Strategy to 2020" describes the Russian government's major targets and directions of energy sector development. It emphasizes reforming the energy price structure as a key to stimulating rational and efficient energy use. The strategy assumes the promotion of EE investments using the following measures:

- Administrative measures: energy audits, review and introduction of mandatory norms and standards of energy usage, obligatory certification of industrial equipment on energy usage level;
- Economic measures that turn EE into financially efficient area of investments: tax benefits for EE investments, accelerated depreciation of energy saving equipment, tax incentives.

At the Federal level the program "Energy Efficient Economy", approved by the Russian government Decree № 796 of 18 November 2001, is designed as the main mechanism in the Energy Strategy to improve energy efficiency of the economy and ensure future sustainable energy supply to the market, in line with the goal of the Main Provisions of the Russian Energy Strategy to 2020. **This program maintains that EE is one of the main priorities for Russia. However, it is clear that the vast majority of funding for EE projects must come from private sector sources outside the Federal budget**.

The "Main Provisions of Energy Policy and Structural Reforming the Fuel-Energy Sector to 2010" sets priorities, goals and methods of implementation of energy policy in Russia. The priorities include sustainable energy supply, improving EE and creating necessary conditions for the transfer of the economy to energy saving development and reducing negative environmental impact of the power sector.

A main goal of the Russian energy policy is structural reform of the fuel-energy complex. This goal is to be achieved through: regulation at federal and regional levels of the energy tariffs, formation of a competitive market in a sphere of production and consumption of energy, realization of energy saving projects, etc.

The planned unbundling and partial deregulation of the electricity sector will definitely lead to the creation of an attractive market environment for strategic investors. **It will result in a substantial increase of both gas and power prices for industrial and residential consumers and lead to a more favorable investment climate for energy efficiency**. With the anticipated regulatory and tariff changes, the issue of EE will emerge as one of the top priorities for both energy sector players and energy consumers.

Energy efficiency is an increasingly important issue for regional authorities as they look for ways to cut regional expenditures, increase limited budget revenues and improve industrial competitiveness. Heat and power subsidies alone absorb presently 25-40% of regional and local budgets. Since 1995 many regions have developed legal, regulatory and institutional frameworks for energy efficiency. To date 35 regions have energy efficiency laws in force, 42 regions have special decrees for energy efficiency activity and 62 regions have energy saving programs for residential and social sectors.

The main priorities of the regional energy policy are:

- security energy supply at the federal and regional levels;
- development of regional programs, funds and energy efficiency centers;
- highest possible use of domestic fuel-energy sources;
- performance of the regional taxation policy including tax benefits and sanctions;
- regional EE management and financial provision for energy efficiency projects and programs.

The most active regions in the field of EE are Moscow, Novgorod, Chelyabinsk, Tula, Tomsk, Saratov, Kostroma, Ekaterinburg, Belogorod and Republic of Karelia. A number of regions support EE programs by local budget financing. Moscow City, Novgorod, Sakhalin and Khabarovsk regions and Republic of Karelia offer tax benefits promoting EE investments.

Regional laws propose a variety of EE measures and procedures, e.g., the Chelyabinsk Law is based on compulsory auditing and expert evaluation of projects. Many regional laws already include provisions for gathering and processing the energy consumption data, e.g., the Tula Regional Energy Efficiency Law contains a special clause on statistical reporting. Finally, the regional efficiency laws normally commit energy

conservation authorities to ensure that EE programs stipulate the education and popularization of energy saving.

The regulatory environment of energy efficiency is influenced by both federal and regional legislation. **Regional authorities, as a rule, are more active in implementing concrete incentive mechanisms for investments in energy efficiency that fully corresponds with the provisions of the federal programs** .

Energy efficiency and energy saving projects are regulated by the Federal Law of 03.04.1996 No. 28-FZ on Energy Conservation. The Law defines energy conservation as the realization of legal, organizational, scientific, production, technical and economic measures that support the efficient use of energy resources and the application of renewable energy sources in industrial practices.

The Energy Conservation Law makes a step forward by determining major principles of the state EE policy, calls for accountability of producers and consumers and incorporation of energy-efficiency requirements in the federal standards for equipment, material, buildings and vehicles. The Law is also innovative for introducing standardization and certification of energy-consuming equipment, making energy audits compulsory for large companies and providing basic financial and economic mechanisms and benefits to promote EE investments. All activities in the EE sphere are led by the Department for State Energy Supervision and Energy Conservation (Gosenergonadzor).

IFC/WB Country Assistance Strategies

IFC has held a number of meetings with the Department for State Energy Supervision and Energy Conservation. They are very supportive of the FEER initiative and have sent a letter of endorsement to the GEF Focal Point in the Ministry of Natural Resources.

Promoting energy efficiency in Russia also meets a number of IFC's internal drivers: in its 2002 country impact assessment of Russia, IFC's Operations Evaluation Group recommended that IFC's strategy in Russia should focus on:

(i) Development of efficient capital markets;
(ii) Support for SMEs by coupling investment with TA;
(iii) Increasing efforts to finance Russian sponsored business.

The proposed project fits perfectly with these recommendations, and is supportive of IFC's strategy in Russia. IFC's growing network of relationships with Russian FIs and its substantial operations in Russia provides an immediate opportunity to catalyze a Russian EE finance market.

FEER is also designed to contribute to the three pillars of the World Bank/IFC Country Assistance Strategy (CAS) for Russia published in May 2002:

- ***Improving the business environment and enhancing competition:*** FEER improves access to capital for business, in particular small and medium size enterprises (SMEs), and targets investments that improve the competitiveness of Russian industry;

- ***Strengthening public sector management***: regular exchanges of information with government bodies on the positive and negative impact of Government policy on private sector investment may influence institutional and regulatory change. In the medium term, financial institutions participating in FEER may choose to invest in energy efficiency projects that improve district heating and energy use in public buildings;

- ***Mitigating social and environmental risks***: FEER promotes investment in projects with significant environmental benefits. More importantly it encourages financial institutions to take a pro-active approach to investing in environmentally beneficial projects.

The FEER program represents the next evolution of IFC's efforts to develop innovative financing mechanisms that move private capital into energy efficiency projects. In drafts of the GEF Private Sector Review, as well as in a number of different meetings, GEF has urged IFC to develop energy efficiency financing programs in less developed markets – "to move further East". In seeking to respond to this direction IFC considered a number of different factors: large technical potential for energy efficiency, interest from IFC's Financial Markets investment department, interest from international donors to co-finance an initiative, and most importantly - demand from the financial institutions in the country itself in engaging in an IFC/GEF energy efficiency financing program.

Barriers preventing investment in Energy Efficiency in Russia

The recently completed study commissioned by IFC on financing options for energy efficiency investments in Russia concluded that despite the large potential in Russia for financially viable EE investments, only a few of those investments are actually being undertaken. The reason for the lack of development of EE investments in Russia is a combination of the following three factors:

a) Lack of financing for EE projects:
There are major financial barriers in Russia to EE investments:

(i) The transaction costs of identifying, developing and financing EE projects are high. The development of a sound EE loan portfolio requires a level of specialization that entails high initial costs, given the lack of experience in the sector and the need to develop new institutional capacity to develop financial products for the EE sector and appraise EE project risk.

(ii) Project financing is still not used on a wide scale by banks in Russia, although the trend is encouraging. EE projects, however, are in most cases based upon project financing.

(iii) EE investments, in most cases, require financing for periods exceeding one year. Because of a lack of access to long-term capital, Russian banks rarely provide debt for periods exceeding one year, especially to SMEs. However, terms of 5 years are now becoming more common, and could be made more broadly available to borrowers with expanded FI access to longer term funding, as the market continues to mature and liquidity issues are resolved.

b) Lack of bankable projects:

FIs are not dedicating resources to developing and marketing specialized financial products, or appointing dedicated loan officers, with a focus on lending for energy efficiency projects. The inexperience in dealing with EE transactions and lack of an institutional "home" for appraising such transactions leads to EE projects sometimes being rejected out of hand, which in turn leads to disillusionment amongst project developers. As a result, the opportunity costs of developing EE projects are relatively high on the side of both the FI and the project developer, when compared to the more commonly encountered financing of working capital or expansion of production facilities based on the balance sheet of the borrower.

c) Lack of awareness:

Investment priorities of industrial managers are focused on increasing production capacity and turnover. They typically lack awareness concerning the benefits of EE. Lack of knowledge concerning EE financing within the banking sector leads to a strong reluctance on the part of the Russian banks to finance EE capital investments. There are three major factors that have contributed to this information barrier in Russia:

(i) EE has never been an area of major priority in Russia until recently because of the low energy prices and inexperience in making realistic cost/benefit calculations.

(ii) There has been limited effective dissemination of the results of demonstration projects undertaken to date.

(iii) Those responsible (such as Regional energy efficiency centers) for communicating the benefits of EE to different stakeholders are only now developing the skills needed to target specific messages in the right way to the people who matter.

In order to address and overcome the above-described barriers to the development of EE investments in Russia it will not be sufficient only to address one or two of the identified barriers. Consequently, the FEER Program addresses the three identified barriers simultaneously. When integrating the financing, project development and information components, FEER will also draw on other complementary energy efficiency programs in Russia, using them as sources of deal flow, as sources of information on demonstration projects, as providers of complementary technical assistance, and as key information channels. Working collaboratively with these initiatives, FEER focuses directly on developing the market for energy efficiency finance.

2.2. Developing the market for energy efficiency finance

Since 1997, IFC has gained a wealth of experience with EE credit enhancement facilities in Central and Eastern Europe through the Hungary Energy Efficiency Co-financing Program (HEECP), and more recently through the Commercialising Energy Efficiency Finance (CEEF) program. Both of these facilities involve partial credit guarantee schemes, which are funded jointly by IFC and the GEF. Both schemes also involve a technical assistance package tailored to the needs of local financial institutions. The success that IFC has achieved in HEECP is described in detail in Annex 7. It is important to note, however, that this success has been hard won; there have been setbacks and it has taken time to understand really what makes financial institutions take an interest in energy efficiency.

Understanding the business dynamic driving FIs

One of the lessons from implementing the HEECP Program, reinforced by IFC's experience in the CEEF Program, is that the competition between FIs is a serious driver for entering the energy efficiency market. This driver reveals itself in different ways. In a market where there are a large number of financial institutions competing for a relatively small number of 'blue chip' clients, energy efficiency offers FIs an alternative of growing market share by moving 'down-market' to clients or projects with special needs. This is clearly reflected in the experience in Hungary. Signs of this competitive dynamic emerged in Latvia during the first year of CEEF. Also in Hungary, a small FI new to the market used the IFC guarantee scheme in an aggressive market entry strategy. The experience in Estonia is similar, as the initial interest was shown by smaller banks looking for niche market opportunities to compete with the two dominant players in the market. However, in Estonia IFC has also seen the disadvantage of the small number of FIs in that market, and therefore the relatively muted level of competitive pressures. The result is that the more dominant FIs appear more comfortable with their market position and do not feel the need to go down market. The focus in this case needs to be on developing the market, packaging/bundling projects in a sectoral portfolio, so that the EE market opportunity becomes attractive either for new market entrants or for the big players.

In Russia, there are over 1600 banks, most of which have limited capacity to lend, to develop innovative financial products, or establish a project finance business. Many are financially unstable with opaque business practices. It is a highly fragmented market with a wide range of risk profiles. However, a key business constraint for all FIs is a lack of liquidity. Perhaps perversely, IFC sees this as a significant opportunity for promoting energy efficiency finance.

IFC seeks to build upon its base of investment in the Russian financial market (investment to date in 15 financial institutions totaling US$450 million commitments) in order to mobilize lending for EE projects. Russian FIs that are IFC clients are typically small, aggressive, often have some foreign ownership. They typically have good corporate governance structures, and prudent risk management processes. They also

have clients that are looking for longer term loans than have previously been available. The opportunity here is to provide longer term finance to the FIs on the condition that it is used for projects that have strong energy efficiency benefits. By supporting these credit lines with a package of extensive TA for the FIs and the project developer, IFC seeks to create a cultural change whereby FIs:

- recognize the improvement in risk profile of a project that has strong EE vs a "non-EE" investment
- understand EE financing structures
- actively build a portfolio of EE projects
- actively encourage their clients to improve EE aspects of projects they put forward
- develop a niche strategy for marketing EE finance, working with IFC to develop specialized financial products to support the strategy.

If IFC is successful in cultivating an appreciation of EE in industry, where IFC currently sees the most favorable investment climate for EE, IFC can then expand the range of TA and market development activities out into other sectors or regions, based upon FI interest and demand. This approach acknowledges that the market in Russia is highly dynamic and that sectors where investment is unattractive now, through a process of market, legal and regulatory reform, can become attractive within the lifetime of FEER.

Understanding the market development process

IFC has made a significant impact on the Hungarian energy efficiency market by combining technical assistance with a financial product – a partial credit guarantee. HEECP has clearly created an appetite for EE lending among FIs by introducing EE business niches as new potential markets and then working with the FIs to develop and market specialized financial products to serve these market niches. The result is a competitive EE lending market among Hungarian FIs serving a broad range of niches, including the small residential, SME, municipal, institutional, and blockhouse markets. In this context, the IFC guarantees are used only to support the first few projects in each emerging product or client class. Thereafter, the FI builds upon its experience to originate similar loans without deploying (or paying for) IFC's guarantee tool. Based on this use, the total amount of guarantee agreements with banks now stands at around $12 million shared between four banks, with two more banks ready to join the program. The total estimated requirement for guarantees currently in the project pipeline is approximately $9 million, even as actual EE lending by participating banks is expected to range as much as 10 times more that that.

HEECP thus helps FIs enter new markets and then builds their capacity to eventually develop a sustainable lending business without continued need for guarantees and TA support. For example, when Raiffeisen Leasing started to finance EE projects through domestic medium-size ESCOs, IFC/GEF provided the guarantee and TA to help them in this undertaking. Now, Raiffeisen Leasing finances EE projects in the amount of US$8-10 million/year without guarantees or TA support.

Through developing special and innovative financial products HEECP has helped to improve the level of EE finance in Hungary. Comparing the situation in Hungary in the late 1990s with today:

- FIs now require a lower level of collateral behind the projects;
- FIs have started to finance projects relying on cash-flow to finance repayments;
- FIs have started to calculate energy cost savings as revenue for debt service;
- FIs require less down payment (down to 15%, in some cases 0%);
- At least one bank staff is focused on the EE business in each participating bank, and there are cases where a fully educated engineer sits in the bank's EE finance unit;
- There are cases where the bank has invested equity in ESCO operations;
- The financial market's culture has changed. Now banks are hunting for EE projects and are open to innovative approaches and products;
- Competition among FIs has developed the market for EE project financing and ESCOs are now able to bring a pipeline of transactions;
- Specialized portfolio-based credit lines have been developed for individual ESCOs, which has enabled rapid development of the participating ESCO businesses; and,
- Small homeowner loans for EE have become a viable and profitable business for FIs.

The key lessons emerging from HEECP, and CEEF are:

- Assistance in developing specialized products and in structuring transactions is at least as, if not more, important as the guarantee tool.
- It is essential to build a network of contacts across a wide range of stakeholders in order to achieve a sustained impact on the market.
- The positioning of the implementation team as an interface between project developer and the sources of finance enables a highly catalytic role.
- It is essential to maintain a flexible Program that can adapt to the needs of FIs in ever-changing markets. The Program focus must follow the lead of the FIs (including regulatory and legal frameworks) ensuring alignment between their business strategy and the market development strategy of the Program. TA support must be designed for each FI individually.

2.3. Regional and Sector Focus

An initial focus on energy efficiency in industry

While IFC anticipates an initial focus on the industrial sector in the Program, the ultimate allocation of Program resources will be driven by FI interest and market demand. The combined industrial, residential and public sectors in Russia account for 70% of electric energy consumption and 76% of heat energy consumption. According to Ministry of Energy, these sectors also represent the highest technical potential for EE improvements (see Table 2-2 below).

Table 2-2: Russian main Electricity and Heat consumers

Consumers	Electricity consumption		Heat consumption		Total Energy Consumption	Value of potential savings
	%	Bln USD	%	Bln USD	USD, bln	Bln USD
Industry	49,7	12,2	29,3	6,5	18,8	3,17
Residential & Public	20,2	4,9	46,9	10,5	15,5	2,57
Transport	10,2	2,5	1,4	0,3	2,8	0,69
Agriculture	4,3	1,0	1,4	0,3	1,4	0,30
Other	15,6	3,8	21,0	4,7	8,5	0,10

Source: Russian Ministry of Energy, IEA, RAO UES
Note1: The industrial consumption does not include Fuel and Energy Generation industries figures.

Table 2-2 clearly shows that industry has the highest potential for the value of energy savings. Within industry sectors the following sectors have the largest potential for EE investments:

1. Fuel industry and Energy Generation
2. Chemical industry
3. Machinery construction and metal working
4. Non-ferrous metal
5. Wood processing and Pulp and Paper

Many current international initiatives in Russia focus on the public and residential sectors. Table 2-2 shows that these sectors indeed have significant energy savings potential. However, when considering an intervention through commercial financial organizations, industry projects are more attractive. Table 2-3 summarizes the reasons for this.

Table 2-3: Rationale for projected initial focus of Program on industrial sector

RESIDENTIAL & PUBLIC SECTORS	**INDUSTRIAL SECTOR**
Cross subsidization	
The Russian government policy of cross subsidization leads to a situation where tariffs for residential users are 20% to 40% lower compared to tariffs for industrial users, even though the cost of energy supply for industrial users is usually lower than for residential users.	Considering the economic and political situation, it is expected that cross subsidization will not be abolished in the coming 3-5 years. As such, the industrial energy tariffs will remain substantially higher compared to tariffs for the residential and the public sector.
Development of demand	
It is expected that energy consumption by the residential sector will not change significantly.	On the contrary, the Russian industry is expected to continue to grow (with an average rate of 6%) and will create similar increases in demand for energy.
EE Measures	
In the residential and the public sector EE investments are mostly required for heat consumption.	In the industrial sector energy efficiency could be achieved in both electricity and heat consumption. In addition, EE in the industry leads to savings of other resources such as raw materials and water.

Incentives	
Under the current conditions in the residential and the public sector energy consumers do not have an economic incentive for EE activities. The main targets for EE investment could be regional governments and municipalities. They pay huge subsidies for energy consumers, about 25%-40% of the total annual budgets.	Industrial consumers have a direct economic incentive for EE activities. Due to a lack of EE knowledge at the management level, very few measures have been implemented so far. Consequently, this creates the opportunity for large energy savings with relatively simple measures.
Project complexity & Contractual arrangements	
The funding capacity of regional and municipal authorities is often limited to a single year and therefore difficult to forecast. Contractual relations with state organizations in Russia are complex.	Multi-year obligations are legally binding and easier to achieve with industrial companies. The contractual relations are less complex and include only two contracting parties.

Source: Study of Financing Options for Energy Efficiency Investments in Russia, Lighthouse (2003) .

Analysis of regions

Russian Government policy stresses the importance of the regions in developing and implementing energy efficiency policy. The pilot nature of FEER and the economic conditions required for Program success also demand a regional approach. In their report on financing options for EE in Russia the IFC consultant (Lighthouse), also analyzed the most promising regions to pilot the FEER Program. They concluded that, though the demand for EE investments exists in every Russian region, the most attractive regions are the main Russian industrial regions being the Ural region, the Volga region and the Central region.

In addition to the macro-economic factors influencing regional choice, IFC's experience in launching CEEF indicated the need to focus resources early in the project development process on implementation, and seek to minimize logistical and administrative effort on mobilization. It is also essential to focus on working with those institutions which are willing collaborators – including both FIs and technical partners.

Given the focus on mobilizing commercial financial institutions it is paramount that the program works with keen and committed FIs. In selecting pilot regions IFC was looking for a convergence of four key criteria: (1) partner FIs with interest and willingness to participate in the program; (2) energy prices at levels which made EE projects commercially viable; (3) an industrial base with internal competition to drive cost-cutting investment plans; (4) an existing infrastructure of EE consultants or service providers. The Ural Region, Moscow Region, Volga Region and Northwest Russia meet these criteria. Our pre-selection of Moscow and the Urals was driven, all other things being equal, by the efficiency with which we can mobilize resources in these regions.

IFC currently has credit lines with 15 Russian banks and leasing companies and is actively seeking more partners in Russia's financial sector. Most of these institutions, when interviewed in July and October 2003, expressed interest in utilizing a dedicated EE investment/TA facility if it was created.

Following on from its pre-appraisal analysis and interviews with FIs, IFC proposes to start the Program with an office in Moscow and one regional office in Ekaterinburg. The Moscow office will liaise with FI headquarters and work with them on strategy, market assessment, pipeline generation. The Moscow office will also serve the Volga Region, at least initially. The Ekaterinburg office will serve the Urals liaising with project developers and regional banks.

IFC will then carry out a further market assessment and identify second regional office to start operations. This assessment is to be completed at end of year one.

2.4. Proposed Investment Approach

IFC's approach is to build on its existing relationships with selected Russian FIs in order to accelerate the process of setting up and implementing the EE investment facility. These institutions have already passed IFC's rigorous investment appraisal process and have a demonstrated performance track record. Given that EE will be a new market area for any participating Russian FI, working with an existing IFC partner mitigates a portion of the organizational risk involved in working with a previously unknown FI. This is especially important in the wildly diverse Russian banking market.

The planned investment will include dedicated EE credit lines for existing IFC FI clients, to be funded, initially, entirely with IFC capital. In the first phase of the Program, IFC will dedicate initially up to USD 20 million from its own resources for credit lines that may only be used to finance energy efficiency projects. IFC could make a further $10 million available depending on the demand from the FIs but subject to individual FI credit limits.

IFC' talks with other international financial institutions indicate a potential opportunity to assist FIs in sourcing similar credit lines from other international FIs. IFC has received preliminary expressions of interest from EBRD and NEFCO to leverage IFC's TA and guarantee market development activities with additional capital for loans.

To address the barrier of perceived risk and lack of experience with EE transactions IFC proposes to offer a small first-loss guarantee to the FIs. This risk mitigation instrument will be applied on a portfolio basis. The level of the first loss guarantee will be up to 10%. The major reason for using a portfolio guarantee is to reduce transaction costs, which have proven to be a barrier to dealflow in both the CEEF and HEECP programs. The proposed relatively small first loss guarantee percentage avoids moral hazard, enabling IFC to streamline credit review procedures and guarantee approvals by deferring to the FI's credit procedures, subject to IFC's appraisal of the FI's credit procedures and IFC's approval of underwriting guidelines for each portfolio. In general, preliminary discussions with Russian FIs indicate that a pari-passu guarantee product would be of limited importance to them. Their primary interest lies in the IFC credit lines plus technical support for deal preparation, financial product development, and marketing in the EE sector. This balance reflects the fact that:

- Liquidity and especially lack of long term financing is the over-riding problem.
- FIs in Central Europe have utilized guarantees on a selective basis, primarily in support of first-of-a-kind transactions.
- Russian FIs have indicated a similar limited appetite for the guarantee product, although the selective use remains strategically important.
- In future Program phases, as the financial markets mature and FIs move down market with more innovative financial products, this balance is likely to change.

The relatively small projected guarantee facility (USD 2 million) might limit IFC's ability to provide substantial guarantees for larger loans because of the need to diversify risk within the guarantee portfolio when the projected portfolio is relatively small. However, the structure of the first loss portfolio guarantee which is envisioned (less than 10% of the portfolio amount) might prove to address this issue of diversification which is more relevant in the case of the CEEF/50% pari passu structure. IFC will further explore the significance of this issue and assess how to manage this limitation within the proposed portfolio approach during project appraisal.

The investment facility is expected to begin with 3-5 banks and/or leasing companies, and then expand to include other interested FIs over time. IFC has already identified a group of six financial institutions with a strong mutual interest in developing an energy efficiency finance program. IFC will commence negotiations with three of these FIs upon confirmation of GEF work program entry of the proposed Program.

The overall financing structure in Figure 2-2 below shows how the IFC and GEF Investment Facility would function. Sections 3.1 describes this in more detail

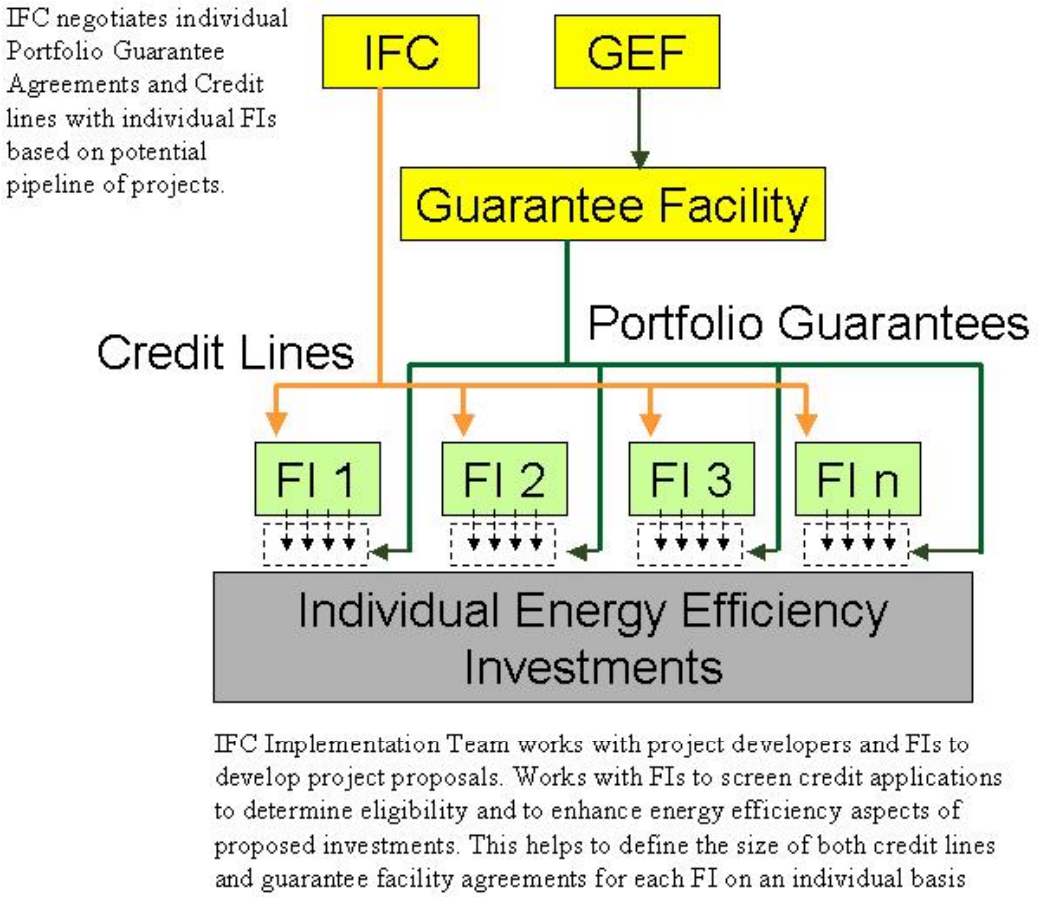

Figure 2-2. Investment Structure and Operations

2.5. Project Alternatives considered

IFC considered and rejected three basic alternatives to the integrated credit line/Guarantee/TA package:

- Investment Preparation Facility
- Revolving Fund plus TA
- Guarantee Facility plus TA

These are briefly described together with the reasons IFC rejected them.

Investment Preparation Facility

An Investment Preparation Facility would essentially be a TA-only program that works with both project developers and the financial institutions.

A capacity building program, which is certainly needed, would train FIs to recognize and analyze EE projects. It would provide training for project developers, energy service providers, and consultants. It would provide targeted grants for performing energy audits and feasibility studies for EE projects.

Such a project has a number of drawbacks that IFC felt made such an initiative non-viable:

- it replicates other initiatives currently ongoing in Russia (although not in industry) and would therefore offer no new demonstration impact.
- it does not address the financing barrier (lack of long-term capital) and so could lead to expectations of project financing that could not be met. The disillusionment that this brings could damage the future development of the energy efficiency financing market.

Revolving Fund

Revolving Funds have been widely promoted as tools for accelerating EE projects and establishing a sustainable EE industry in developing countries. Reasons often cited for their promotion[3] are:

1. EE Funds allow for bundling of projects that FIs may not be willing to fund because of the relatively high transaction costs. EE financing mechanisms with bundled projects create economies of scale that individual FIs cannot achieve.
2. EE funds are often combined with a TA program and as such allow for bringing the technical and the financial aspects (e.g. preparation, contracting and evaluation) together. In developing countries there is most often a gap between technical and financial organizations. EE financing mechanisms can provide an indispensable knowledge base of specialized knowledge, skills and expertise.
3. Funds can offer long term finance critical for the financing of energy efficiency projects and ESCOs.
4. FIs can obtain valuable experience in EE finance if they are tasked with administering the financing facility.
5. EE funds are often the catalysts of EE investment projects.
6. EE funds are often EE market makers by creating interest in EE investments on the sides of end users, project developers and FIs.
7. EE funds allow for spreading risks over many projects.

IFC reviewed these justifications for EE funds in the light of its experience managing energy efficiency finance programs in Central Europe and also in the light of extensive interviews it held with the Russian financial community. Its conclusion was that the proposed approach, using targeted credit lines can generate a more sustainable impact on market development by engaging competitive forces of the market, rather than competing with commercial banks. Among the significant advantages over revolving funds:

[3] Source: Study of Financing Options for Energy Efficiency Investments in Russia, Lighthouse (2003)

1. Economies of scale are important to both FIs and project developers. Our experience in Hungary indicates that this can be achieved by individual FIs by taking a sectoral or financial product approach in their marketing strategies. For example, establishing a credit line between a single financial institution and a single project developer (ESCO) creates a natural platform for transactions. Streamlined credit appraisal procedures, eligibility criteria, etc. can all be pre-negotiated. Technical assistance to both FI and project developer can offset these initially high transaction costs and build capacity on the side of both the FI and the ESCO to replicate similar financial products with other clients or again with each other.

2. A TA program is an integral part of the FEER Program and will build capacity directly with interested FIs.

3. The credit lines that IFC proposes offer identical long-term financing possibilities and can be augmented by other financial sources.

4. FIs will gain better experience from originating deals and managing the credit line disbursement than from participating in a Fund.

5. IFC's experience in Hungary is that a well trained project implementation team working to bring FIs and projects together can also provide a similar catalyzing role.

6. IFC's experience in Hungary is that the FIs themselves can make the EE market if they are sufficiently motivated and innovative in developing financial products appropriate to market needs.

7. Targeted credit lines can also provide sufficient diversity in the portfolio if the individual project relative to credit line is monitored and if the risk is managed prudently by careful structuring and due diligence. This implies careful screening of FIs participating in a Program.

Additional reasons for adopting IFC's proposed approach are:

8. FEER builds capacity in the FIs that resides in their institutional memory through special products, procedures, manuals, checklists, etc.

9. Energy efficiency is an easy entry point to FIs adopting more pro-environmental lending policies. Mainstreaming EE into bank lending policies is one step to actively working for projects that have wider environmental and social benefits.

and most importantly,

10. Creating a Fund assumes that the local financial community is not interested or able to provide the same function. Its creation can hinder the development of a self-sustaining commercial lending market by competing with the private sector, thus crowding out commercial FIs. In Russia IFC has found a critical mass of FIs who are

ready, willing and able to fund EE projects if they are given the right tools and support.

Standalone Guarantee Facility

Annex 6 shows a comparison of the investment climate for EE in Hungary and in Russia. While there are some similarities, the clear conclusion is that a guarantee scheme, on its own, cannot address the key limiting factor facing EE investment in Russia. It is essential therefore to address the liquidity barrier.

2.6. Complementary Energy Efficiency Initiatives in Russia

This project stems directly from a study commissioned by IFC and completed in 2003 to assess options for commercial financing of energy efficiency projects in the Russian Federation. This study identified a number of promising industry sectors, technologies, technology and service providers that can play an important role in financing energy efficiency projects. It also highlighted the many encouraging policy developments in Russia that will contribute to improving the investment climate.

Whilst this is a Private Sector based financing initiative, its long-term success in substantially developing the national market is dependent on the Russian Government continuing to encourage energy sector reforms that will enable commercial EE investment in regions other than those IFC will focus on during the initial pilot. The project is complementary to other Russian and internationally funded energy efficiency initiatives, and should be a cornerstone of attempts to fill the financing gap identified in the Russian energy efficiency strategy to 2010 "A highly energy efficient economy".

Other key linkages which IFC intends to leverage include:

- European Union TACIS Program. Between 1992 and 2000 TACIS supported the establishment of energy efficiency centers throughout Russia. Today they work as independent private companies and some have aspirations to become ESCOs. These organizations will be a key resource for both potential investments as well as for entities whose capacity the Project can enhance under Component 4: Strengthen the capacity of emerging local energy service providers (ESCOs).
- UN ECE Project "Energy Efficiency 2001". This Project is assisting the Economic Commission of Europe (UN ECE) member states to develop and implement greenhouse gas mitigation strategies. It is expected to be a source of EE investment projects requiring commercial financing as well as a partner in the area of policy reforms.
- Russian-Norwegian Energy Efficiency Corporation. This program, implemented under the umbrella of the UN Economic Commission for Europe Energy Efficiency 21 Project, was involved in setting up 4 regional energy efficiency centers in Northwest Russia.

- Oblast governments in chosen regions. Given the varying industrial profiles and energy supply/pricing landscapes across Russia, a number of Russian regions have proactively designed their own energy efficiency programs. The Project will actively liaise with local government stakeholders in the chosen regions.
- German-Russian energy efficiency co-operation. The German Energy Agency has a number of initiatives aimed at providing investment opportunities in energy efficiency in Russia for German industry through building capacity in Russian institutions and developing collaborative programs. One such initiative with direct relevance for the FEER Program in the short term is the development of guidelines for increasing energy efficiency in the food industry. This would be a natural co-operation partner for the proposed FEER awareness raising activities.

Another key bilateral initiative comes from Finland. During pre-appraisal, IFC has been in active discussions with the Finnish Government regarding co-financing of the FEER Program. A by-product of these discussions is that the Finnish trade promotion agency FinPro is discussing with its members an energy efficiency trade promotion scheme that would complement the FEER Program. This would bring Finnish private sector capital into the EE promotion market in Russia. IFC is also in early stage discussions with the Danish Government and Danish trade promotion agency regarding similar private sector co-financing for FEER.

During Project Appraisal, IFC will engage with other energy efficiency initiatives in Russia to develop a co-ordination strategy to exploit synergies and avoid overlap between the different programs. This strategy will be presented at CEO Endorsement.

Consultation, Coordination and Collaboration

- World Bank. IFC has held a number of meetings with the World Bank to discuss their GEF project Russia-Renewable Energy Program (RREP) currently under preparation. We see good opportunities for mutual co-operation, particularly in the area of project identification and helping to make RREP transition from – Fund-sourced investment to commercial FI-sourced investment. Our experience in Central Europe suggests that as the FIs engaged in FEER gain more experience in developing EE projects they will see very little difference in between EE and RE projects. There is, therefore, a possibility that RREP can provide a pipeline of commercially viable projects that FIs with FEER experience could finance.
- In addition to the RREP, the World Bank Municipal Heating Project for Russia supports a wide range of investments in municipal heating systems. The engineering companies involved in this effort could also be a source of local consulting expertise under Components 2 (Support the development of EE projects by FIs and their clients) and 4 (Strengthen the capacity of emerging local energy service providers (ESCOs)).
- IFC. IFC is currently implementing a GEF medium sized project (MSP) to develop the legal and regulatory framework for wind power in Russia. This project is being managed by the same unit within IFC as would supervise FEER.

- European Bank for Reconstruction and Development (EBRD). The EBRD is a key stakeholder in a number of areas: it has experience in developing energy efficiency projects; it has been an active developer of ESCOs in a number of Central European countries and is interested in setting up similar ventures in Russia; it is an investor in Russian financial institutions and could assist in the process of addressing the lack of liquidity in the Russian financial markets. We have held preliminary discussions with EBRD regarding co-operation on FEER but with no firm conclusion. EBRD is a critical supplemental provider of long term credit to Russian FIs.
- Nordic Environmental Finance Corporation (NEFCO). NEFCO has also shown interest in co-operating with FEER by providing both long term credit lines or individual loans for larger projects, as well as possible equity investments. Further discussions are planned.
- UNDP. IFC has met with UNDP to discuss their operations in Russia and to explore how to ensure that IFC and UNDP activities complement each other. UNDP has three specific programs under implementation that have direct relevance to the FEER Program. RUS/96/G31 "Capacity Building to Reduce key Barriers to Energy Efficiency in Russia Residential Buildings and Heating Systems" in collaboration with the Russian Demonstration Zones for Energy Efficiency. (RUSDEM) has been preparing the legal framework for consumption based metering and billing systems for residential consumers. This work is essential in preparing the ground for FIs to invest in building refurbishment projects. In this regard, the collaboration and utilization of results will be in the mid to long term. Of more immediate interest and importance is RUS/02/G35 "Cost Effective Energy Efficiency Measures in the Russian Educational Sector." The training activities undertaken in this initiative will provide experts and institutions with the technical capabilities to work with project developers on transaction appraisals as well as monitoring and evaluation. These experts would be particularly relevant if the third FEER pilot region were Northwest Russia. Another potential linkage is that the UNDP program would be a source of projects for the FIs, should they see the education sector as an attractive market. There is in this case, though, a potential conflict between FIs wanting to finance the projects in a sector where UNDP's revolving funds will operate. This is unlikely to be a short-term problem, but it is an issue to be discussed and monitored during project implementation and once more illustrates the potential retarding effect that revolving funds can have on the development of commercial lending markets in sectors where commercial lending might otherwise be viable.

  The third UNDP initiative is "Building Capacity for Greenhouse Gases Emission Reduction in Russia. This program anticipates developing a monitoring system to support participation in emission trading. The immediate opportunity for collaboration is uncertain pending a decision by Russia on ratification of the Kyoto Protocol. However, in CEEF and HEECP IFC is already considering how monitored GHG reductions from projects can be aggregated and verified in such a way that they could be monetised. In the event that Russia ratifies Kyoto IFC

anticipate similar opportunities for trading GHG reductions, which could only be realized through co-operation with the UNDP work.

3. Project Description

3.1. Project Components

The FEER project will have five closely inter-related components managed by a local implementation team based in Moscow and (eventually) two regional offices. The five components are:

1. Establish and monitor the operations of the IFC/GEF investment facility
2. Support the development of EE projects by FIs and their clients
3. Improve market awareness and understanding of energy efficiency
4. Strengthen the capacity of emerging local energy service providers (ESCOs)
5. Provide policy and legal support to EE investment projects given the evolving legislative landscape

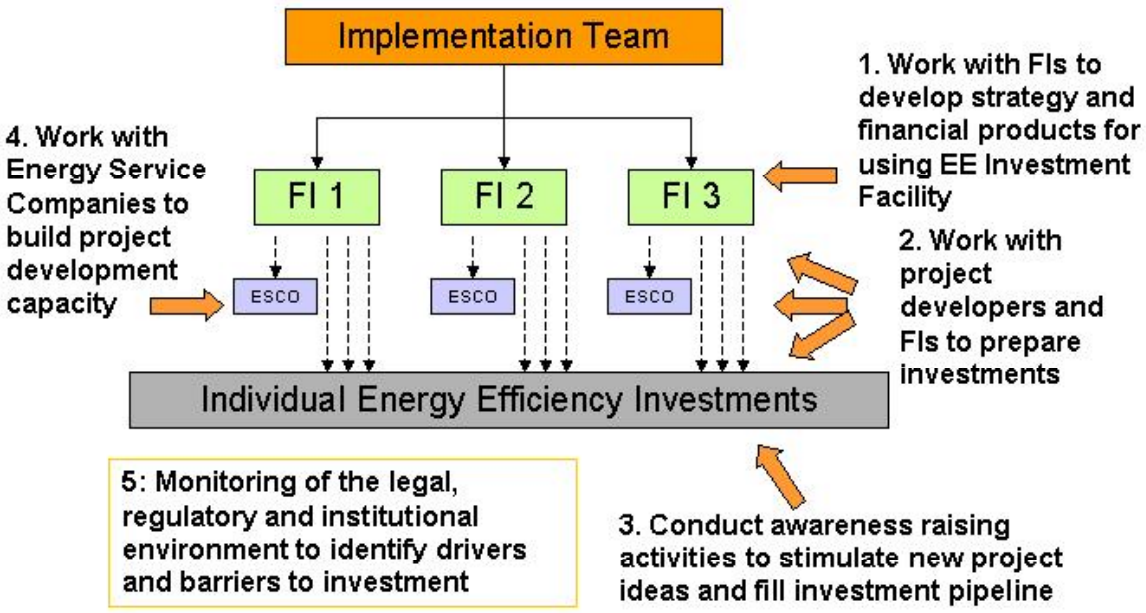

Figure 3-1. Investment/TA Operations

1. *Global Financial Markets Group*
2. *Private Enterprise Partnership*
3. *Environmental Finance Group*

Component 1: Establish and monitor the operation of the investment facility

In this component the Implementation team will establish the investment facility and carry out capacity building activities with the individual FIs to help them create business strategies for developing an EE lending business.

The local Implementation Team will work closely alongside the IFC investment team in the design and start-up phases of the investment facility to develop processes and procedures for the facility operation. IFC has already developed extensive program management procedures and project underwriting guidelines in the HEECP and CEEF Programs. However, IFC's experience is that these will need to be adapted to the conditions prevalent in Russia. IFC is convinced, though, that the start-up time necessary to get the Implementation Team actively engaged in the marketplace will be considerably reduced by utilizing IFC's existing offices and infrastructure in Russia.

IFC is currently initiating the investment process required to create the Investment Facility of initially $20 million.. This is a nominal allocation of funds that can then be drawn down by individual financial institutions according to separate Financing Facility Agreements (FFA). This is shown in Table 3-1, below.

The process of negotiating and managing the FI relationships can be described as an iterative loop:	
Tasks	Activities
• Step 1: Develop/refine FI strategy for using the Investment Facility	Implementation team work with FI to understand their current business strategy, staff/skill set, targets for business growth, objectives for participation in FEER
• Step 2: Identify pipeline	Implementation team review FI portfolio to identify potential clients in energy intensive sectors, project pipeline to investigate investments that could be EE enhanced, vendors with interest in special product development etc
• Step 3: Negotiate credit line	IFC Financial Markets team negotiates scope and terms of credit lines based on pipeline of EE projects identified
• Step 4: Disburse credit line	Implementation team and TA providers engage with project developers and FIs to structure deals. FI draws down credit line in tranches for disbursement to deals.
• Step 5: Monitor portfolio	FI monitors loan performance and reports to IFC.
• Return to step 1	Based on loan performance and growth opportunities FI refines business targets

Table 3-1: Management of FI relationships

IFC will negotiate these FFAs on the basis of a clearly visible pipeline of deals that would be identified through the market development activities undertaken by the Implementation Team in tandem with the individual FIs. The process of identifying the projects and working with the FIs is described in more detail in Component 2: "Support the development of EE projects by FIs and their clients"

The Implementation Team will support the entry of the first Russian FIs into the Project. These FIs will take lending decisions themselves. Since IFC is relying on the FIs own staff to do credit reviews of projects it is essential that IFC has confidence in the FIs credit decision making processes. Hence, IFC will first undertake a due diligence exercise for each FI wishing to participate in the Program. This will be undertaken at IFC's own cost by its financial markets department staff. Once the FI has entered the Program, however, it will be responsible for originating and appraising projects by itself, albeit with extensive technical assistance provided by the implementation team. The implementation team will work with them to develop financial products and services that utilize the Investment Facility. This support is essential given the nascent nature of the EE financing in the country as the financial structure must be made sufficiently attractive to be met with demand from market players. Again, the experience from CEEF and HEECP is that the FIs need assistance to develop strategies and financial products for using the financial tools IFC are making available, which are aligned with their own business strategies.

As the FIs become more accustomed to the products and types of projects, they will start to innovate on their own with new products and services. The role of the Implementation Team here is to guide the FIs and (where appropriate) to amend the IFC/GEF products to ensure that they are responsive to the demands of the FIs and the Russian market. As the Program develops, the implementation team will promote the subsequent enrollment of other interested FIs.

Finally, the Implementation Team will be responsible for ensuring that projects financed/guaranteed by the Investment Facility are eligible as investments which improve the efficiency with which energy is used or which reduce GHG emissions. IFC thus approves each of the transactions proposed by a participating FI under their umbrella facility agreement. In the early stages of the program it is likely that the eligibility checks will take place during FI's credit approval process, however, as the FIs get more comfortable with the types of transaction and the rules on eligibility, they will be booking more assets more quickly, and to ensure that the eligibility checks do not act as a brake on lending, the IFC team will subsequently focus on ex-post checks of the portfolio.

However, IFC will defer credit decisions on individual transactions which utilize the credit line to the approved partner FIs, subject to procedures and guidelines established by IFC. Where FIs choose to take up the portfolio guarantee, IFC will perform ex-post checks of the guarantee portfolio.

IFC's exposure in the credit facility is to the FI, not the individual transaction. This would be less the case for transaction guarantees, where IFC/GEF would share transaction risk with the FI. However, the portfolio guarantee increases the separation of IFC's exposure, ensuring that the GEF is not guaranteeing IFC's risk. Another advantage of the portfolio guarantee is it could be, potentially, applied to portfolios of projects financed from sources other than IFC credit lines.

In order to maximize the cost-effectiveness of its Program operations, and further streamline the product's execution, IFC's credit procedures, product marketing, client services, and program management will be administered by field-based implementation team, with oversight by IFC's Moscow and Washington DC-based Supervisory Committee. In exceptional cases e.g. if a project value exceeds a certain value (to be determined) or is a particularly complex project, the Supervisory Committee will review the available documentation and make a decision on behalf of IFC/GEF, thus giving extra protection to the GEF.

Figure 3-2 shows, in outline, the process of appraising projects once they have been identified by the FI. The detailed underwriting guidelines and processes for approving transactions and managing the credit lines will be negotiated with individual FIs during project appraisal, and described in the Project Appraisal Document prior to GEF CEO and IFC Board endorsement.

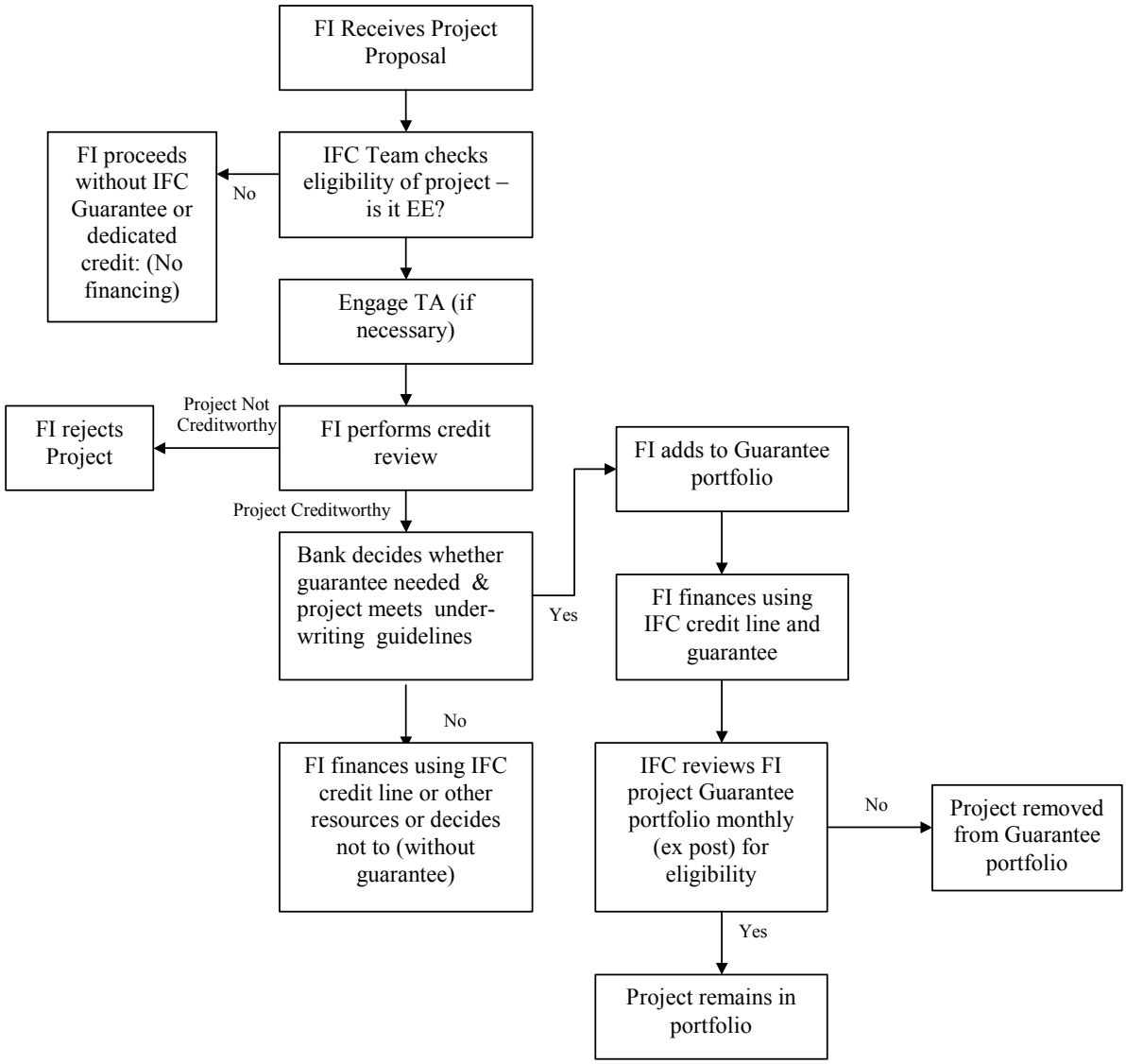

Figure 3-2: Flow chart for Transaction Decision Making

Component 2: Support development of EE investment projects by participating FIs and their clients

In this component the Implementation Team will work with both FIs and Project Developers on appraising and structuring individual transactions. The team will pay particular attention to building capacity in the FIs to appraise transactions.

Given the early development stage of the EE investment market in Russia, there is a role for the Implementation Team and its consultants in EE investment transaction support. This could include: a) facilitating EE investment project generation through identifying projects, brokering multi-project ESCO finance facilities, developing specialized financial products; b) assisting the FIs in screening the projects to ensure that they meet the energy efficiency eligibility criteria; b) advising the FIs on how to improve the risk management and credit structures of each project.

Under this component, therefore, the Project team will conduct a detailed TA needs analysis at each participating FI and design a tailored support plan. The resulting TA activities can include in-depth training for loan officers, development of product materials, and review of potential client base. Table 3-2 below shows a variety of technical assistance activities that could be carried out.

Table 3-2 Menu of Technical Assistance Activities to Support FIs

Value of EE projects and characterization of EE industry and market	Definition of target sectors and EE finance products
EE finance structures	Definition of internal FI organization for EE finance marketing and origination;
Special features of credit analysis of EE projects	Training program for branch staff
Economics and financial evaluation of EE projects	Define Market Strategies
EE project development cycle	Segmenting customers by type of projects and organizations;
Security and structuring techniques	Evaluate attractiveness of each segment for financing,
Use of the IFC Credit Facilities	Strategic analysis of the FI's position relative to each segment.
Development of Niche EE Finance Products.	Create market strategy for each segment:
Promotion of the guarantee program and EE finance via branches of FI's	Define concrete action plan for transaction development and marketing;
Opportunities to market direct to end-users	Define appropriate measurements to follow up the success;
Establishing an EE finance unit marketing financial services for EE projects	

The EE investment projects that the FIs are most likely to focus on, and therefore which TA is likely to support, are those with relatively simple and proven technologies which

can easily be replicated across companies. Furthermore, the technology should be relatively easy to monitor and should allow for a payback period which ideally does not exceed three years. By focusing (though not exclusively) on this type of EE investment, the Project will improve its chances to promote lessons learned and replication.

The team will work together with the FIs to investigate its existing pipeline of projects. The aim is to identify potential energy efficiency projects and assist with their structuring. This is a key step in educating the FI and building a constituency of EE champions within the FI. This may require energy audits, feasibility studies, accounting assistance to investigate balance sheets and so on. In addition to 'pure' energy efficiency projects, the team will investigate investment proposals to see whether energy efficiency attributes can be enhanced or built in to other financing proposals. This analysis may lead to larger investments, but ones which will then improve the financial viability of the companies through reductions in production costs, increases in product quality and so forth.

IFC's TA team will work with FIs to identify projects through several channels. First, the FI's existing customer base will be assessed. Existing Customers with which the FI is willing to assume additional credit exposure will be identified and these can be screened further for their interest and economic potential for EE investments. Existing plant and equipment loans which the FIs have under preparation can also be screened for potential to add or deepen EE investment components. Qualified projects so identified can become the subjects of further project preparation TA work.

Second, IFC will assist FIs to establish relationships with qualified EE/ESCO companies who are developing projects needing financing. Vendor finance programs and master loan agreements which plan terms for financing multiple projects can be structured between FIs and EE/ESCO firms so as to generate a pipeline of projects for the FI.

Third, the TA program can undertake project development and strategic procurement activities in partnership with large end-users managing multiple facilities, e.g., regional and local governments, and with end-user associations. Through these programs projects can be aggregated for development and financing. An example of this type of activity is the program IFC has underway to procure financing to implement a series of projects with approximately 30 multi-family housing complexes, working in cooperation with the Estonian Union of Housing Cooperatives. IFC will assist FIs to structure financial products for target end-user sectors that can be replicated, thereby building a pipeline of projects by approaching the market systematically.

We have included a broader discussion of project eligibility, project types and project structures in Annex 9. In order to build FIs confidence in financing energy efficiency projects, these investments should typically (but not exclusively) have the following characteristics:

1. Low threshold (simple) technology.
2. Proven technology.
3. Technology that is replicable to other companies.

4. Technology that is relatively easy to measure and monitor.
5. Technology that allows for a payback period of the project that does not exceed 3 years.

For illustrative purposes, the energy saving potential of a number of generic energy efficiency technologies is given in Table 3-3

In addition to the investment advice offered to project developers it is essential to advise on low cost energy saving measures or so called "good housekeeping". These would include:

a. Personnel training on how to operate and maintain equipment and how to use energy resources efficiently;
b. Monitoring and targeting of energy consumption including necessary metering and controls;
c. Awareness raising
d. Detection programs for steam and compressed air steam trap replacement program.

As a rule, these measures can be undertaken without substantial investments (less than USD 50,000) and usually have a payback period of less than one year. Experience shows that the implementation of such measures can often lead to energy savings from 5% to 25% of the total energy consumption. Measures that require investment can be bundled together as part of a investment for an 'Energy Efficiency Programs' or could form part of a package of work subcontracted to an Energy Services Provider (ESCO). Such "good housekeeping" initiatives can catalyze more capital-intensive investments by demonstrating benefits, building credibility, and freeing up cash. When working with ESCOs, the Implementation Team would work with them on developing business models that also incorporate energy management as well as investment needs. This will also be addressed through the more general EE awareness raising activities.

Table 3-3: Energy saving potential per technology

Type of EE activities	Technologies to be used	Energy saving potential %
1. Recovery Elimination of energy wastes	1. Waste heat recovery boilers and heat-exchangers	5-10
	2. Pipelines' thermal insulation improvement	5-20
	3. Elimination of leakage in water, steam and compressed air pipelines	5-10
	4. Secondary energy resources utilization (heat and combustible wastes)	5-20
	5. Improvement of thermal insulation in industrial and commercial buildings.	5-10
2. Measure and control systems Installation of automatic energy measuring and controlling systems	1. Energy Management Systems	15-25
	2. Technological process control	15-20
3. Use optimisation Optimisation (tuning) of energy equipment	1. Variable speed drives installation (for pumps, fans and compressors)	10-15
	2. Optimisation of burners, furnaces using automatic process parameters e.g. oxygen trim	10-15
	3. Load management	Up to 30
	4. Cleaning of heat exchanging surfaces	5-30
4. Modernisation Retrofit or replacement of energy equipment	1. Energy Efficient lighting	2-20
	2. Gas infrared heating	10-30
	3. Modernization or replacement of existing inefficient equipment	5-40
	4. High efficiency motors	10-15
5. In-house energy generation Installation of individual equipment for energy resources production (heat, electricity, compressed gas etc.)	1. Installation of cascade boiler systems	10-30
	Installation of co- independent co-generation Large Industrial Gas Turbines Gas TurbinesMicro Gas Turbines	10-40
	2. Triple generation modules.	Up to 45
6. Renewable sources and alternative fuels	1. Solar, wind, water and ground energy usage.	Up to 5
	2. Heat pumps (ground source)	Up to 15
	3. Utilization of local fuels (biomass, biogas, liquefied gas, gas received as by-product) to replace, partially or fully, existing fuel.	Up to 5

Source: Study of Financing Options for Energy Efficiency Investment in Russia, Lighthouse (2003)

** Results/Savings strongly depend upon local situation, type of industry/building*

Component 3: Improve market awareness and understanding of energy efficiency

In this component the implementation team will co-ordinate with Russian Government and complementary energy efficiency initiatives to raise awareness of energy efficiency opportunities within targeted sectors.

As was made evident from the Lighthouse report, as well as subsequent meetings with companies and market players, there exists a vacuum of information about energy efficiency investments in Russia, available EE equipment, stories on successful EE investments, and the availability of local competent consultants. Therefore, IFC will address this vacuum in a targeted manner in order to support the development of project pipelines for the participating FIs. This component will have as its main goal the education of the market and the dissemination of best practices/lessons learned.

Some of the activities envisioned in this component include:

- Development and delivery of seminars to Russian companies on how to structure EE investments and examples of best practices
- Creating a publicly available database of international and Russian EE equipment vendors, with contact information
- Establishing contacts between Russian leasing companies and Finnish/ international / Russian EE equipment vendors
- Conducting and disseminating sector-based detailed EE market studies for sectors such as wood processing, food processing, metals industry, construction materials and small scale district heating
- Development and dissemination of printed and electronic materials on EE issues, including the launch of a dedicated internet site as an outreach to stakeholders.

Component 4: Strengthen capacity of emerging local energy services providers

In this component the Implementation Team will work directly with energy efficiency product/service providers to develop strategies for growing an energy efficiency business.

Having good local consulting capacity to undertake energy audits, EE project design, and manage the effective implementation of EE investments is an essential market driver for EE investments. Today there are approximately 60 so-called ESCOs in Russia, but few of them fully live up to the name. While technical capacity in Russia is high and a number of Russian companies are already willing to pay for their energy audits, neither FIs nor ESCOs have much experience working with each other to actually take an EE investment project through the entire funding and implementation cycle.

IFC's TA efforts in Russia and elsewhere in the region have always included a dedicated capacity building component with local consultants. In FEER, this can be accomplished by direct support to local ESCOs as well as through having international experts work alongside local consultants during actual client assessments that will take place under Component 2: "Support development of EE investment projects by participating FIs and their clients," outlined above. In the end, the Project can achieve better sustainability if

several competing ESCOs or energy consulting companies have been made stronger as a result of the Project's work.

Table 3-4 below shows a range of technical assistance activities that have proven successful in the HEECP and CEEF Programs.

Table 3-4: TA Activities to Support Market Development

Capacity Building and Training for EE/ESCO Companies	Review the energy savings and GHG emission reduction forecasts.
ESCO Business Planning and Equity Capital Raising.	Project development and finance structuring assistance to selected individual EE businesses and ESCO's
FI portfolio review and specialized financial product development assistance	Develop model procurement documentation for public sector acquisition of ESCO projects & services
Training FI branch staff in marketing EE finance products	Brokering ESCO_FI partnerships and structuring multi-project lending facilities
Energy Audits and Project Development	Engineering Reviews

Component 5: Provide policy and legal support to EE investment projects

Given the quickly changing policy and legislative landscape in the Russian energy sector, this module will be essential in order for the Project and its FI and industrial clients to be on top of the rules and understand the market opportunities thus created. It is highly likely that the Project will encounter many "firsts" to work through. For instance, cases involving third-party energy sales and access to the public grid. The role of the TA team in this module will be to liaise with key policy makers, keep abreast of the changes, inform the stakeholders about the implications for the markets and disseminate pilot experience and lessons learned. For example, a possible role for this module will be to develop and disseminate model contracts for Energy Performance Contracting which can regulate ESCO work on EE investment implementation. The Program's Advisory Committee will provide an efficient vehicle for engaging policy-makers in the Program.

4. Stakeholder Participation and Implementation Arrangements

4.1. Stakeholder Participation

The list below indicates a number of likely project partners, both among FIs, as well as other stakeholders. This list is by no means exhaustive and simply serves to illustrate the profile of select interested parties. Relevant partners will be added as and when they are identified.

Russian Financial Institutions

We have held extensive meeting the financial institutions listed below. All have expressed interest in participating in an energy efficiency financing program.

- Probusinessbank (PBB). PBB is a medium sized Russian bank established in 1993 ranking among the top 30 Russian banks in terms of assets and in the top 15 in terms of equity. It is has recently acquired another bank in Ekaterinburg, a Russian region with significant energy efficiency potential given its large industrial sector.
- Nizhegorodsky Bankirsky Dom (NBD). NBD is a regional bank based in Nizhny Novgorod and has an SME lending focus. A significant percentage of NBD clients take out loans for new equipment purchases and thus are likely to qualify for energy efficiency savings.
- Uraltransbank (UTB). UTB is a regional bank based in Ekaterinburg and has recently become an IFC client. The bank is very interested in pursuing environmental opportunities and already has a pipeline of EE deals. However, these deals tend to be high cost and long term, which is a challenge for UTB.
- Raiffeisen Leasing. Raiffeisen Leasing has been active in Russia for almost 3 years and focuses on equipment leasing for industrial and construction sectors. Many clients of Raiffeisen Leasing in Russia are also clients of Raiffeisen Bank, one of IFC's partners in HEECP.
- KMB KMB-Bank (Bank for Small Business Lending) was founded by the EBRD and several outside investors. The Bank focuses on lending to very small businesses, many of which are sole entrepreneurs. It has offices and branches in approximately 15 regions. It also has a wholly-owned leasing subsidiary
- Delta Leasing have 27 offices in Russia and are currently working with 31 different industries. Delta predominantly leases equipment for process upgrades. Their average project size is $100,000. They focus 100% on SMEs.

Russian Energy Service Companies

- Nizhny Novgorod Energy Savings Center (NNESC). NNESC was founded as an NGO in 1992 and is currently the largest ESCO in Russia, working on energy projects from design to implementation and maintenance. NNESC has about 180 people working in the NGO itself as well as in several private companies organized under their umbrella. Although headquartered in Nizhny, the center has

worked in a number of Russian regions and has experience with implementing World Bank and EU projects.

- The Ural Center for Energy Savings (UCES). UCES was created through the TACIS program in cooperation with the Administration of Ekaterinburg city, Sverdlovsk region, and German company MVV-Innotec. UCES has been focusing its activities on energy audits and energy passports of enterprises. In addition, it has participated in donor funded programs, related mostly to creating an inventory of greenhouse gases for the region.
- CENEF. The Center for Energy Efficiency is one of the most reputable consulting companies in Russia. They have carried out a wide range of assignments for international organisations and will be an important local consulting service provider.

Energy Efficiency Equipment Suppliers

Annex 8 gives a list of Russian energy efficiency equipment suppliers and international suppliers active in the Russian market. These suppliers will be critical sources of deal flow.

MinEnergo

The Russian Ministry of Energy is a crucial stakeholder through their active engagement in developing and implementing Russian energy efficiency policy. We will actively engage them through regular briefings and through their participation in the Advisory Committee.

Ministry of Economic Development and Trade

The Russian Ministry of Economic Development and Trade is responsible for improving the competitiveness of Russia industry. They are therefore and obvious partner for delivering the message the energy efficiency can provide industry with a competitive edge.

Advisory Committee

A proven technique IFC has employed in the HEECP Program and the Efficient Lighting Initiative to secure inter-stakeholder dialogue is to organize an Advisory Committee to consisting of representatives from relevant ministries, government agencies, NGOs, the EE industry, utilities and end-user associations with interest in EE project development and finance. The main role of the Advisory Committee will be to provide advice and feedback on the Program design and implementation to support Program operation. The Advisory Committee is also a potential forum for the advancement of EE finance as many of its participants play important roles in promoting and sustaining a favorable policy environment for EE investments.

The Advisory committee will be convened approximately annually or semiannually to advise the Program on operational issues and promote its coordination with other national initiatives and policies. Considering that the Program will have one central and two regional offices, the Program management may decide to organize the Advisory Committee regionally, holding meetings in different regions where the Program is active.

The first Advisory Committee meeting will be organized after launching the Program. The purpose of the first meeting will be to announce that the Program has started its operation, present Program strategies for the first year and discuss implementation plan. Potential interested FIs and other partners would be invited to the meeting as observers.

The purpose and the agenda of the following meetings will be to present Program activities of previous year and strategy for the upcoming year. The Committee members may provide comments and advise the Program implementation team on specific questions, and might provide information on policy, legal and government strategies related to the EE sector. The Advisory Committee can also serve as a lobbying body to support Program implementation by addressing critical EE business related policy and strategy issues at the government level. Beyond the annual Advisory Committee meetings, Program management and implementation team may contact the Committee members to seek advice on issues raised during day to day Program operation.

The Advisory Committee is also a potential forum to handle possible objections and questions coming on environmental and social issues related to sub-projects under the Program. These possible questions may come from the government and NGOs. In specific cases the Committee may issue official declarations on these issues to the public.

4.2. Implementation Arrangements

Because of the substantial capital exposure, as well as the potential moral hazard and reputational risks associated with IFC's investment in and execution of the Project, it remains essential for IFC to operate the Program directly through IFC staff. The field-based staff fully dedicated to the Program would be supported by the GEF resources. This is analogous to other IAs' use of government agencies or NGOs whose program teams are supported by GEF resources as direct implementation costs. They will be the primary TA providers, relationship managers, program leaders, and administrators of the Program.

IFC's headquarters staff, including legal, administrative, management, and credit committee staff would be fully supported by IFC's own resources, as well as by GEF supervision funds. The Implementation Team will be staffed as follows:

- An experienced Project Manager responsible for Project operations and coordination with the counterparts and stakeholders;
- Two regional team leaders and support staff in selected cities;

- A central team comprising a local legal specialist, finance specialist, communications specialist, technical specialists and local support staff, charged with the implementation of the Project's various components; and,
- International and local consultants, attracted on an as-needed basis to work on specific project components.
- A Supervisory Committee of IFC environmental and finance specialists to provide guidance to Program team on credit, structuring, legal, strategy, and policy issues. This team is comprised of senior IFC staff and managers based in both Washington and the Region. This team is not supported by GEF program funds.

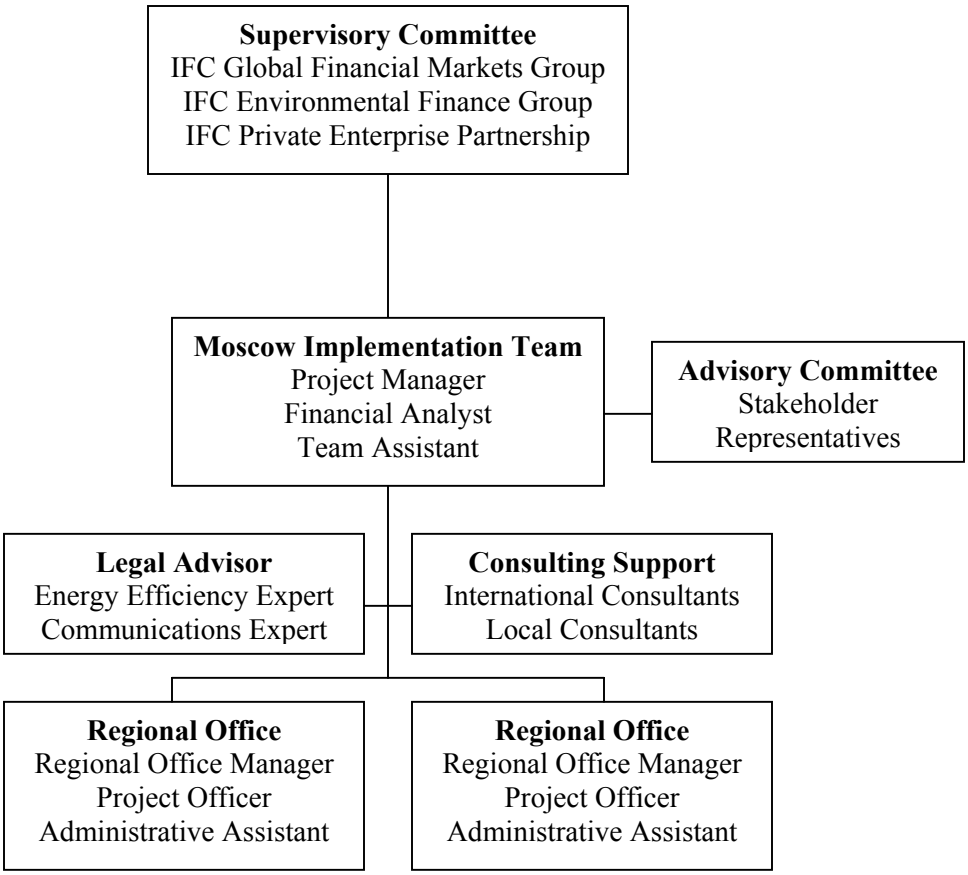

Figure 4-1. Implementation Team Structure

4.3. IFC's comparative advantage

The development of solid local financial institutions and promotion of investments with sound environmental benefits is an integral part of IFC's overall strategy. The proposed TA/investment Project seeks to address both objectives. IFC has played a substantial role in the development of the Russian financial market. IFC investments and TA support for numerous Russian FIs through projects such as the Banking Sector Corporate Governance Study, Northwest Russia Leasing Project, has spurred the deepening of the

financial markets. The proposed Program represents a further extension of IFC's reach and is intended to build a sustainable Russian lending capacity in the EE sector.

Through its experience with HEECP and CEEF, IFC has developed a good understanding of the market conditions under which a partial guarantee scheme can, on its own, stimulate increased investment in energy efficiency. This proposed Program will build on the technology, procedures, and know-how from the current portfolio of IFC programs (including the participation of HEECP and CEEF staff in its development).

IFC is particularly well-positioned to deliver the proposed Project in Russia due to having:

- a dedicated TA facility with substantial operating experience and local capacity in Russia, **Private Enterprise Partnership ("PEP"),** which is co-funded by IFC and donor partners to (i) promote private sector investment, (ii) support the growth of small and medium-sized enterprises (SMEs), and (iii) improve the business-enabling environment;
- more than a decade of hands-on TA experience in the region;
- over 200 mostly local staff currently delivering almost 30 TA programs;
- extensive local relationships with key stakeholders including local FIs; and,
- several projects already successfully implemented with FINPRO in Russia.

Since the PEP Partnership was created, its programs to link small businesses into supply chains of large producers, build financial markets, improve corporate governance, and strengthen business support services and the regulatory environment for small and medium enterprises have laid the foundation for increased investment and strengthened small businesses and the overall business enabling environment across the former Soviet Union. To highlight some results, in FY03 the PEP's programs have:

Facilitated Direct Investment: In the forestry sector, the Partnership worked to introduce sustainable forestry management practices, improve wood harvesting and transporting capabilities, improve the enabling environment to encourage investments in modern sawmills, and facilitate business partnerships between private Russian and Finnish firms. As a result, PEP facilitated $26 million of foreign direct investment in the sector. In the Russian leasing sector, PEP facilitated several deals worth $2 million between Finnish equipment producers and local leasing companies. Fifteen more transactions worth about $20 million are currently under discussion. In Armenia and Uzbekistan, the Partnership's work to strengthen leasing legislation laid the groundwork for IFC's $4.8 million in investments in the country's' first private leasing companies. PEP paved the way for a $16.5 million investment, including $5.5 million from IFC, to create the first private company to finance Russian farmers. The Agro-industrial Finance Company uses an innovative model, developed in part by the Partnership, to overcome high commercial risk in the agricultural sector and leases equipment to farms with long-term supply contracts to major food processors. This project builds on PEP's earlier technical assistance work with a dozen Russian milk farms, which resulted in the

construction of a $50 million dairy processing plant by the Dutch company Campina with IFC's support.

Increased Access to Financing for SMEs: This year the Partnership developed a unique web portal, www.vlasnasprava.info, for small businesses in Ukraine seeking finance and business advice. The new web site offers tools for enterprises to assess their financing needs, recommends customized financing options, links users to Ukraine's lending institutions, and offers on-line finance applications. If enterprises do not qualify for credit, the web site contains financial management training materials and links to consulting companies where enterprises can receive professional business advice. In its first six months the site has attracted over 1,000 registered users, over 13,000 unique visitors and over 250,000 hits. In July 2003, the site was ranked 32nd (of over 1,400 sites reviewed) among the most popular business and financial sites in Ukraine. This project builds on similar IFC initiatives managed by the joint IFC-World Bank SME Department in other parts of the world.

Built Local Capacity: To improve corporate governance practices by local enterprises, the Partnership has trained more than 1,400 companies across Russia and Ukraine. To ensure that future managers and lawyers understand the importance of good corporate governance and have the skills to practice it, the Partnership works with universities to introduce or improve their corporate governance curricula and train professors. In addition, we conduct public education campaigns to reach the broader shareholder community.

In Ukraine the Partnership advised the Government on 12 pieces of legislation, including the draft Joint Stock Company Law, three of which have been adopted. This legislation covers issues of information disclosure, Boards of Directors, and general regulations related to corporate governance. PEP also drafted Corporate Governance Principles, a voluntary code of conduct for Ukrainian companies, a model charter for corporations and two model by-laws. In Russia PEP assisted the Russian Institute of Directors to draft professional standards for corporate directors. As participants in working groups of the Russian parliament, Ministry of Economy, and the Central Bank, PEP provided recommendations on three pieces of legislation dealing with company reorganizations, holding structures, and the role of independent directors at financial institutions.

In Belarus IFC assisted local business associations in drafting 28 pieces of legislation regulating the small business sector. One third of these proposals are currently under consideration by Belarussian lawmakers.

5. Financial Analysis

5.1. Financing Mechanism

Credit Lines and Guarantees

IFC will invest through extending credit lines to stimulate the market for energy efficiency investments. IFC will make an initial allocation of $20 million available for credit lines, increasing this up to $30 million based on demand from the financial institutions. The size of the credit lines with individual FIs will be dependent on IFC's existing exposure with each FI and the FIs' financial strength. Eventually, dedicated lines of credit from other international FIs may be made available to Russian banks, however, discussions with both the EBRD and NEFCO are at too early a stage to realistically include a financing contribution in this proposal.

In addition to the credit lines (which address the short-term market liquidity issue), IFC will administer a guarantee facility financed through GEF funds (US$2 million).The guarantee facility will support portfolios of transactions by sharing risk with FIs on loans they provide for EE investments. The guarantees will not support IFC's exposure in the credit lines extended to the FIs, but rather will support only the FIs' exposure to the individual loan transactions.

Following IFC's discussions with Russian FIs, IFC anticipates that the total volume of guarantees to be requested during the Program will be proportionately much lower than that estimated in the CEEF and HEECP programs. The projected small-sized guarantee facility will therefore limit the size of guarantee available per individual transaction because of issues of portfolio diversification for risk management purposes. The anticipated size of the total guarantee pool would therefore limit the size of the guarantee exposure amount on individual transactions. However, the proposed small first loss guarantee (limited to less than 10% exposure on a portfolio of projects) should still enable support for the larger transactions which might emerge from the market. The primary purpose of this first loss portfolio approach is that it allows streamlining of the project approvals, thus making the product more useful and attractive to the FIs.

During project appraisal we will examine in detail whether the credit lines and guarantees can be offered singly or in tandem, according to FI demand.

In IFC's current energy efficiency finance market development programs, where IFC has co-invested in guarantee facilities, IFC incurs transaction costs both in the field and in Washington because of the need to review each individual transaction. IFC is now reviewing these procedures to streamline and accelerate decision making in the CEEF and HEECP programs. The lessons of these experiences are embodied in the proposed approach for the FEER program. The proposed program in Russia offers an opportunity to take streamlining to a new level by relying largely on the local FI's credit approval processes (following stringent IFC review of their appraisal processes), and subject to underwriting guidelines derived for each sector. If IFC is not directly involved in the transaction level guarantee it can avoid time-consuming ex-ante project evaluations by IFC staff in Washington which significantly add to transaction costs for both IFC and the

FI. The risk for the GEF investment is still mitigated through: IFC's stringent appraisal of FI credit procedures; risk sharing structures (eg, <10% first loss guarantees) which ensure that the FI's interests are aligned with IFC/GEF, and through the use of TA to help with project structuring.

In this pilot program in Russia IFC proposes that the entire guarantee facility ($2 million) be financed by the GEF. IFC believes this is justified for the following reasons: The small guarantee amount (less than 10%) is both adequate to make a difference in the credit profile of these projects, and small enough to avoid moral hazard in the FIs' credit decision process. Allied to this small guarantee percentage is a question of total volume of guarantees needed. In both CEEF and HEECP, IFC's experience is that the level of guarantees requested is below the initial estimates in program design. Feedback from FIs in Russia also suggests that demand for guarantees is uncertain.

The combination of small volume and uncertain demand in this pilot phase means that it would be inefficient for IFC to invest in the guarantee facility. The guarantee facility of US$ 2 million is, therefore, a true incremental cost best provided by the GEF.

Participating FIs have an incentive to disburse the credit lines. They will pay a commitment fee to initiate their access to the financing facilities, as well as interest rates payable on the dedicated credit lines. They will also pay an annual fee associated with all guarantee liabilities obligated through the facility for specific EE investments. These fees will be set at "market rates" in accordance with IFC policy of not distorting markets. These fees are not set to substantially defray the costs of operating the Program, but rather based upon local capital market conditions. A full cost recovery pricing scheme is not feasible for a program with such substantial operational and TA requirements, given the early-stage development of these EE lending markets. However, IFC will encourage sharing of market development costs with the FIs, firstly through in-kind effort from FI staff, then subsequently, as the relationship develops, through co-financing of technical assistance. IFC is presently testing the viability of such a revenue-generation approach in HEECP and CEEF. The objective is to continue mainstreaming these market development efforts within IFC and the financial markets. Eventually, as the market continues to develop, it may be possible to move to a position of full cost recovery for certain TA activities from success fees based on the amount of business generated for each FI. However, such revenue generation is not likely to be possible in early-stage markets such as Russia.

The IFC Global Financial Markets Department will be responsible for managing the credit lines and the guarantee facility. IFC's Legal Department will support the facilities on contractual matters. The Environmental Finance Group will provide operational supervision of the Program team and technical support related to EE finance, technology, monitoring and evaluation, and EE market development.

Technical Assistance and Implementation Costs

The technical assistance program and implementation costs will be co-funded through a combination of GEF and donor funds. The funds will be co-mingled to allow maximum flexibility in usage. However, IFC anticipates using donor funds extensively in the early stages of the Program even prior to CEO endorsement of the GEF Project. In this case the main donor funded activities will focus on capacity building in the first 2-3 FIs. This would be funded primarily through IFC's Sustainable Financial Markets Facility. IFC will – through its bilateral Trust Funds, its Private Enterprise Partnership and its Sustainable Financial Markets Facility – contribute funds to support the technical assistance component of the Program. IFC's Private Enterprise Partnership will manage the local implementation including all local payments. IFC's Environmental Finance Group will provide technical oversight of the overall Program.

5.2. Project Costs

Annex 2 shows a detailed breakdown of the costs of the Program. These are summarized in Table 5-1 below:

Technical Assistance and Local Implementation Budget (all figures in USD)	
STAFF COSTS (1)	3,250,000
OPERATIONAL COSTS	1,500,000
• Travel (2)	250,000
• Event management and media (3)	450,000
• Equipment and Building (4)	400,000
• Communications (5)	200,000
• Other Indirect Costs (6)	200,000
CONSULTANTS (7)	1,500,000
Total	**6,250,000**
IFC – HQ Operational Costs	
IFC Contribution to legal, operational and management	**2,000,000**
Investment Facility Budget	
IFC Credit lines	20,000,000 – 30,000,000
GEF Guarantee Facility Total	2,000,000
Investment Facility Total	**22,000,000 – 32,000,000**
TOTAL PROGRAM COST	**30,250,000 – 40,250,000**

Table 5-1: Summary of Project Budget

Notes to Table 5-1:

(1) includes salaries and benefits. Team comprises: Project Manager, Technical specialist, 2 Regional Team Leaders, Lawyer, Communications specialist, Financial specialist, 2 Project officers, 3 Team Assistants,

(2) Travel is mainly within Russia but also some international flights to Washington for training and to participate in international events to disseminate the results of the project more widely.

(3) Event management and media covers all training and awareness activities including: the salary of the communications specialists, press conferences, publications, seminars, market surveys.

(4) Equipment and Building: Office rent/lease for offices in Moscow, Ekaterinburg and 1 other region; furniture purchases for offices in Ekaterinburg; Office equipment purchase (computers, printers photocopiers, software etc

(5) Communications (Postage, Telephone, Cables, Freight, FAX, Data communications
(6) Other Indirect Costs (Local Transport Cost, Bank charges, Passport charges, Utilities, Office refurbishment, Office Security, Office Moves, General supplies, Contract printing, Other publishing costs, Books and periodicals, Recruitment/ Misc, Shipping and storage
(7) Consultants include all fees and travel expenses

5.3. Co-Financing for technical assistance and operational costs

Co-financing will be provided from a number of different sources. IFC's PEP Program has a proven model of sourcing and mingling donor funds from a variety of countries and implementing programs that match the needs of all contributors. . In this Program, IFC has already secured financing from the Governments of Finland and Denmark. . Appendix 13 contains a statement from IFC PEP summarizing the state of negotiations with bilateral donors, as well as a statement form IFC's Sustainable Financial Markets Facility confirming its intent to co-finance capacity building activities in FIs.

In addition to national government support IFC is also working with industry promotional organizations in Finland and Denmark that utilize private capital from Finnish and Danish industry to develop energy efficiency promotional programs that are complementary to FEER, but which promote Finnish and Danish technology.

The current status of co-financing is shown in Table 5-2

Table 5-2: Co-financing Sources

Name of Co-financier (source)	Classification	Type	Amount (US$)	Status*
IFC Sustainable Financial Markets Facility	Implementing agency	Donor funded Facility contribution to TA	150,000	Firm
Finland (Ministry of Trade and Industry, Ministry of Foreign Affairs))	Bilateral	Grant for operating costs and TA	600,000	Firm
Denmark	Bilateral	Grant for operating costs and TA	500,000	Firm
IFC Global Financial Markets Group	Implementing Agency	Contribution to supervision , management, training, IT, legal costs	2,000,000	Contingent on IFC credit line, guarantee facility and GEF grant
IFC Global Financial Markets Group	Implementing Agency	Credit lines	20,000,000 – 30,000,000	PDS-ER submitted, investment under appraisal
Sub-Total Co-financing			US$ 23,250,000 – 33,250,000	

Table 5-3: Leveraged financing Sources

Name of Co-financier (source)	Classification	Type	Amount (US$)	Status*
Russian Industry	Private Sector	Equity investment	5,000,000 – 7,500,000	Dependent on projects

International Financial Institutions	Bilateral Investors	Credit lines and Equity	5,000,000 – 7,500,000	Early stage negotiations
Total			10,000,000 – 15,000,000	

5.4. Use of GEF Funds

The GEF funds would be used exclusively to address areas of needed "additionality" in order to leverage available co-financing (and private sector commercial investment) which is conditional on the GEF contribution. This primarily includes financing the operations of the project implementation team and co-financing the technical assistance to FIs and project developers, as well as providing the guarantee funds for the proposed first-loss portfolio-based guarantee facility. When IFC extends lines of credit to financial institutions they are not typically tied to specific investment types or sectors, as is proposed here. However, in the case of FEER, IFC seeks to mobilize FI investment in a highly developmental sector in non-traditional business areas encompassing types of projects with which the FIs are not familiar. This requires extensive assistance with strategy development, project appraisal, marketing etc.

IFC, itself, will provide co-financing to set up and manage the credit lines and administer the guarantees. It will also provide extensive training, coaching and mentoring for the implementation team, and help FIs with strategy development. This model has been proven in HEECP and CEEF. IFC has also identified significant donor funding for this program ($1.250 million). However, a distinct and valuable aspect of GEF funds is that – unlike bilateral donor funds -- they are completely un-tied (to consultants from a particular nationality) and flexible. The GEF funds therefore serve a unique function in delivering the program effectively, ensuring IFC's ability to be fully responsive to market needs. The allocation of GEF funds in the program is shown in Table 5-4:

Table 5-4: Use of GEF Funds

Technical assistance and implementation	5,000,000
Guarantee Facility	2,000,000
TOTAL GEF COST	**7,000,000**

Given this breakdown of costs (Tables 5-2, 5-3, and 5-4), the leverage of GEF funds to co-funding and direct investment leveraged would be 1:3 in the conservative case and 1:9 in the best case.

5.5. Incremental Cost Analysis

This Program involves three distinct types of incremental costs to be met by GEF funds. They include:

(i) the costs associated with the TA programs that cannot be met from other funding sources;

(ii) the amount of guarantee funds required to persuade FIs to invest in EE projects and which is subsequently not returned to GEF at the end of the Program; and

(iii) that portion of the Program's administrative and operating expenses that cannot be met by IFC nor can be offset by fees paid by FIs.

The first and last are typical incremental costs while the second is related to the incremental risk facing FIs. Addressing this costs is necessary in order to persuade them to move into a new business area. The major justification for GEF's involvement is that under the baseline situation Russia lacks a robust commercial financing capacity for private sector EE projects. Currently no (or very limited) long term financing is available for energy efficiency related investments. The specific use of GEF funds in the Program is limited to those areas where the Program co-funders and private sector investors are unable to pay the costs. The GEF contribution is thus truly incremental and additional, and is very highly leveraged in terms of both the resulting EE project investment generated, and the direct Program costs leveraged.

The TA and investment program operations is proposed for a period of 5 years. The estimated budget breakdown for technical assistance and operational costs over the five years is shown below and totals US$6.250 million.

Over and above the US$1.250 million donor contribution, IFC will provide a significant amount (approximately US$2 million) of the Program implementation cost as an in-kind contribution. This will be done through its Central and Eastern Europe Department, the Legal Department, the Private Enterprise Partnership, and the Global Financial Markets Dept. In particular, this contribution will include functions such as project oversight, finance and accounting, human resources support, IT support, legal support, credit review, personnel management, and impact assessment management. Additionally, the Environmental Finance Group will provide extensive support and advice to the implementation team, in addition to performing its normal IA Supervision role.

This Program with GEF support is expected to significantly expand and deepen the market for commercial FIs' engagement in EE finance while also strengthening local EE firms. Implementation of this project will, in turn, yield a significant quantity of global environmental benefits in the form of reduced greenhouse gas emissions from the additional EE investments that will be financed. Although this Project Brief attempts only to estimate the "direct benefits" generated through transactions directly supported under the Program, in fact the primary benefits generated relate to the Program's objective of establishing a self-sustaining commercial lending market for EE by Russian FIs. These are the "indirect benefits" which will be measured by the Program's M&E program.

Summary Incremental Cost Matrix

Table 5-5: Incremental Cost Matrix

	Baseline (1)	Alternative	Increment
Global Environmental Benefit	0 tons CO2 avoided	6.5 million – 9.8 million tons CO2 avoided (2)	6.5 million – 9.8 million tons CO2 avoided
Domestic Benefit	None	Energy cost savings of $ 6.5 million – US$9.8 million	Energy cost savings of $ 6.5 million – US$9.8 million
Expenditure items			
EE Investments(3)	None	US$30 million– US$45 million	US$30– US$45 million
TA/Operational costs	None	US$8.250 million (4)	US$8.250 million
Losses from Guarantee Facility (5)	0	US$ 0.1 million – US$2.0 million	US$ 0.1 million – US$2.0 million
Total Costs	None	US$38.350 million – US$55.250million	US$38.350 million – US$55.250million

Notes to Table 5-5

1 The baseline condition is that none of the investments supported through the Program are currently financed by commercial FIs since these EE projects cannot be financed without long term loans.
2 Based on most likely scenario for minimum expected IFC investment and maximum likely IFC investment
3 Based on discussions with interested FIs during pre-appraisal and the borrowing capacity of those FIs from IFC.

4 Includes costs for Implementation Team, TA consultants, IFC PEP Team supervision costs and IFC Investment Department supervision costs. Excludes costs incurred by IFC GEF Supervision team in IFC Environmental Finance Group.
5 Based on Best Case Scenario of 5% losses and Worst Case Scenario of 100% losses from the $2 million guarantee facility

Incremental Cost and Benefits Matrix

	Baseline	**Alternative**	**Increment**
Domestic Benefits	Heavy hydrocarbon based fuel usage in the industry electricity generation	Increased penetration of EE technology improves energy intensity of economy and yields lower environmental and health costs from an active economy.	Less local and regional air pollution
		Reduced national fuel consumption	Additional fuel available for export leads to economic growth
	Barriers to EE projects cause high fuel usage and inefficient industrial processes, hindering	Increased investment in EE enables capital preservation for investment in the	Higher competitiveness of the private sector through lower production costs.

	economic development and investment in productive uses.	productive economy and a more productive energy using sector, including, eventually, more comfortable housing.	
	Lack of readily available EE financing restricts EE investment to low level.	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.	Increased EE investments and increased capacity for sustained EE investment in the future.
	High unemployment and low EE project development capacity by ESCOs and FIs.	More productive jobs in the domestic service and manufacturing sectors, market development & competitive markets for FIs and ESCOs	Less unemployment and increased capacity to develop EE projects.
Global Benefits	Current level of EE investments in Russia negligible.	EE investments financed yield at least 6.5 million tons CO_2 emissions reduction	EE investments financed yield at least 6.5 million tons CO_2 emissions reduction
Costs	Current level of EE investments in Russia financed by commercial FIs negligible.	Investment by commercial FIs in EE projects increases to at least US$30 million as a result of IFC credit lines and additional IFI financing. This could increase to US$45 million dependant on demand for IFC credit lines and could increase above this based on the participation of other IFIs attracted by Program success. Incremental costs of up to US$0.5 million depending on the actual losses from the guarantee portfolio.	Investment costs of US$30 million to US$45 million Incremental costs of US$0.5 million maximum expected Guarantee losses plus $5million GEF TA/Operational costs.

6. Sustainability and Replicability

6.1. Sustainability

IFC's program objective is to stimulate the development of a market for EE finance which does not rely on GEF support i.e. to institutionalize energy efficiency into FI lending processes. IFC's experience from implementing energy efficiency finance market development projects in Central and Eastern Europe is that this can be achieved by assessing market needs and then deploying a number of different tools in an integrated manner in direct response to the market needs. In this project IFC will employ three major interventions, each of which support the FIs in building a sustainable EE lending business.

Targeted credit lines with longer terms than are currently available would allow FIs to match finance terms to the payback period typical for EE projects. The resulting EE investments will support the development of a sustainable EE lending market in two ways: (1) by demonstrating that EE investments can improve the cash-flows of a company thus making them better credit risks, thus encouraging FIs to look for more investments with EE benefits; 2) by providing FIs with experience and confidence to move into new market niches, financing EE projects in more challenging sectors and eventually lending to EE projects using funds from non-dedicated (targeted) sources.

In other emerging markets where a lack of market liquidity is a barrier to financing EE projects, one method of addressing this barrier has been the creation of dedicated EE revolving funds. These funds are intended to fill the gap created by the reluctance of traditional FIs to enter the energy efficiency financing market. These funds are often managed by government agencies or fund managers, or sometimes by FIs who generate management fees but are usually not at risk for fund losses. However, a concern with revolving funds is that as financial markets mature, the 'EE Funds' can distort the market by crowding out private sector lenders. The use of IFC lines of credit extended to commercial FIs as an alternative to revolving fund structures ensures that there are no problems migrating from quasi-public funding for energy efficiency to full participation by local financial institutions.

The key benefits of the proposed approach to providing liquidity to the energy efficiency finance market are: long term sustainability of the EE investment market; retention of knowledge and skills within the financial community; an approach tailored to the specific market drivers of each participating FI. The current absence of liquidity in the financial markets presents IFC with a significant opportunity to achieve a lasting cultural change within the FIs' lending practices that can be sustained even if the overall market liquidity problem remains at the end of the Program implementation. By imposing eligibility rules on the FIs for lending using the credit lines the Program forces the FIs to review all potential projects from an EE perspective. If the FIs realize the business benefits to them of investing in EE, and if the EE review is institutionalized in their credit procedures, then the FIs will continue to look for projects with significant EE benefits even in the later absence of dedicated credit lines.

The objective of IFC's approach is to build a self-sustaining lending market for EE projects by supporting commercial FIs in developing new business in the sector. IFC's proposed Program integrates credit lines and guarantees to complement IFC's direct engagement of participating FIs in the development of new financial products and in the effective marketing of those products in the EE sector. The direct impact of this programmatic approach is reflected in the transactions which are directly supported by these tools. However, it is the indirect input, reflected in the lending business which participating FIs establish through the Program, which is the focus of the Program. This is the sustainable, post-program impact for which the Program has been developed.

6.2. Proposed Replicability

The initiative builds heavily on IFC's experience to date in Central Europe. IFC's model in HEECP has proven to be replicable in multiple countries since its inception. Following IFC's adaptation of HEECP to five additional markets (in CEEF), FEER would represent a further adaptation of the IFC EE lending market development model to a substantially less-developed market where liquidity issues predominate. As such, FEER represents an important opportunity to innovate in the area of commercial market development for less developed markets where more distortionary interventions such as subsidies and stand-alone revolving funds have been the common approach taken by the GEF to date. If successful, FEER would represent an important model for less-developed market economies where commercial EE investment activity remains relatively insignificant.

Within Russia, there are currently over 1600 banks. FEER will target its activities on an initial group of 3-5 banks where IFC has existing relationships, and in 2-3 geographic regions where the investment climate is favorable for energy efficiency financing. As IFC continues its larger efforts to develop Russian financial markets, it is anticipated that other banks will become eligible for support from the Program during its lifetime. It is also anticipated that other international financial institutions will learn from the FEER experience and either join the FEER Program with complementary credit lines, or make separate provision of longer term credit to Russian FIs for energy efficiency projects. IFC has entered into discussions with three such international FIs regarding collaboration.

It is clear, however, that replication will not just happen on its own. We will therefore allocate a portion of the operational budget for public education activities and information dissemination both within Russia and in the other markets where similar instruments can be effective. To support replication, IFC will adopt the Program systems ("software") developed for its pioneering HEECP and CEEF Programs for use in Russia. IFC will make these systems, including due diligence checklists, model contracts, market assessments, appraisal guidelines, financial product models, TA menus, credit review procedures, monitoring systems, legal reviews, and lessons learned available to other EE finance programs which target the development of commercial finance markets.

These financing technologies and software fall into three categories: (1) general information, templates, model contracts, case studies etc that will be posted to a website

giving free access to all interested parties; (2) information on specific financial products developed with specific financial institutions that allow them to penetrate certain market niches. Information such as credit scoring mechanisms would be viewed as proprietary to the financial institution, although case studies on projects that use specific structures can be made publicly available, and marketing material promoting specific products will also be publicly available; (3) an Operating Manual for Program Management could be made available to other GEF funded EE finance initiatives.

7. Risk Management

7.1. Risk Analysis and IFC Risk Management Strategy

The TA program has been designed to support the IFC/GEF investment facility for Russian financial institutions and potential investment recipients. . Subsequent to IFC and GEF approval, the greatest risk is that the anticipated EE loans are not successfully placed. This risk is affected by a number of factors, including:

- The proposed credit line / guarantee mechanism fails to ultimately attract interested FIs
- FIs fail to generate a sufficient volume of bankable EE projects to utilize the facility
- Adverse macro-economic conditions which cause deteriorating borrowing conditions
- Adverse energy policy changes which negatively impact the economics of EE investments
- Emergence of new subsidized EE programs that distort the market and discourage commercial finance.

These risks are anticipated and will be fully addressed during the IFC appraisal period over the next 6 months, ideally with the support of the TA program beginning in the late-appraisal phase.

7.2. Individual Project Risk Factors

Program success is linked to a variety of risk factors, mostly related to economic conditions affecting investment. The following table describes the risk factors of EE in Russia and IFC's risk mitigation strategies:

Table 7-1 EE risk factor and IFC's risk mitigation solutions applicable for Russia

Type of risk	Mitigating factors
Non project risks	
Political risk	
The political risks in Russia are diminishing with the stabilization of the political situation. According to Russian policies for economic development, energy efficiency is considered as one of the top priorities in Russia.	• Active public education activities. • Development of working contacts with Russian governmental agencies (Ministry of Energy, Energy Commissions) and Parliament. • Integration of Government officials in Advisory Committee. Representation by key Russian government officials on FEER Advisory Committee.
Economic risks	
The Russian economy has continued to grow since the Russian economic crisis of 1998. The annual rate of economic growth is about 4% per year. However, it is perceived by many	• Diversification of portfolio of projects in different industries. Development of projects with companies that have export potential. Investment in process-related projects that have

experts as unstable due to a slow speed of structural reforms. The economic growth may continue in Russia, in the coming 5 years of the rate of 2-4% annually.	both energy efficiency and production- related benefits.
Risk of decreasing – or slowly increasing - energy prices	
Restructuring of RAO UES may bring competition to the market of energy suppliers. However, the risk of decreasing energy prices is low. The current situation of the energy market calls for higher fuel and energy prices to make the new investments in the energy market profitable.	• Analysis of continuous monitoring of the local energy supply market will be tied to advisory support of FIs and ESCOs. Consultations with Ministry of Energy, federal and local energy commissions. • Project appraisals use conservative energy price assumptions.
Devaluation of the Rouble	
Rouble devaluation may decrease the energy prices in relative terms as well as undermine capacity of borrowers to repay hard currency loans.	• Deal structuring and project finance principals to be used to manage foreign exchange risk, including tying loan currency to borrower's source of capital. Pessimistic Rouble devaluation scenarios to be included into project appraisals. • IFC can offer Rouble credit lines to FIs, dependent upon FI interest. This is anticipated to be an important new product offering which mitigates rouble exposure issues for both FIs and borrowers.
Project related risks	
Risk of bad financial performance of the investee or borrower	
The financial performance of the investee or borrower may pose a risk of repayment.	• IFC screens FIs to participate based upon well-established credit procedures and strong balance sheet. • Guarantees subject to approval by IFC on a project approval basis. • Pari passu guarantee structure ensures that FI interests are aligned with GEF's from a credit review perspective.
Risk of technology choice	
The chosen technology will not provide the expected savings, or will require additional financing.	• Basic project finance principals employed: apportion risk in deal structure to those able to manage that risk – not the FI Required guarantees of performance from the equipment suppliers. • TA program provides technical appraisal support to FIs for projects with important technology performance issues.
The risk of equipment usage	
Incorrect EE equipment usage may pose a risk on the performance of the equipment and results of energy saving.	Provision of training by the supplier of the equipment usage. Frequent monitoring of the usage of the complicated equipment.
Lack of interest of local financial institutions to be involved in EE financing	
FIs do not disburse credit lines or utilize	• FIs pay a commitment fee to acces the

guarantees	credit lines and interest when they draw the money down. They will also pay commitment fees on the guarantees.
Local banks may have little interest in financing EE projects due to the limited knowledge of EE projects, and their perceived potential benefits and risks, based upon this inexperience.	• Careful selection of participating FIs following initial discussions with 15 FIs. • Provision of credit lines only after preparation of a pipeline for FI. • TA support for FIs in developing high quality business plan for EE lending. Detailed description of the project technical parameters, investment requirements and financial outcomes. Education of the financial institutions in regard to the EE projects specifics, assistance in developing and marketing targeted financial products. • Substantial pre-program training of FIs initiated by IFC early in IFC's pre-appraisal process.
Market Liquidity	
Once IFC credit lines are used up, no more long term credit available for EE – liquidity issues persist.	• Russian market trends continue toward increased market liquidity with loan tenors reflecting this trend since 1998 crisis. • IFC credit lines are strategically important in the short term. FI appetite for capital enables IFC to focus FIs on EE sector with restrictive use credit lines. Complementary TA helps build FI capacity and EE pipeline with sustained impact on FI lending business. • IFC is not only source of capital. AS IFC works to strengthen Russian FIs, their access to capital (including deposits) improves.

7.3. Clarifying IFC's approach: Q&A

Is IFC guaranteeing its own credit lines?
No. IFC's credit line risk is exclusively related to FI performance, of which EE lending supported by guarantees are an insignificant determinant. FI must repay IFC regardless of performance of loans enabled by the credit lines. In the unlikely event that all the loans defaulted, the FI would still have an obligation to repay IFC. The GEF guarantee, therefore offers IFC no protection. The IFC/GEF guarantees, by contrast, support a portfolio of specific FI loans. The risk exposure on the guarantees is project risk and borrower risk.

The terms and conditions of the guarantees and credit lines, and whether they can be used singly or in tandem can only be resolved during detailed discussions with the FIs. The guarantee will be applied to a portfolio of projects and so cannot form part of the

collateral structure of individual transactions. Its role is that of "comfort blanket" to help get the FI over the threshold of whether to invest in EE projects at all.

During Project Appraisal we will bear in mind the GEF request to keep as much separation as possible between the credit lines and the guarantees as practicable without incurring excessive additional transaction costs

How is financial risk apportioned between IFC and GEF?
On the credit lines, all risk is held by IFC. There is no GEF exposure to IFC's credit risk of the participating FIs and their ability to pay back to IFC the funds made available to them through the IFC credit lines. On the relatively small guarantee facility, the GEF exposure to the project risk for transactions which the participating FIs finance is on a first loss (up to 10% of the loan principal amount) basis. The use of GEF funds in a first loss position has precedent in other GEF programs. Somewhat similarly, the guarantees in the HEECP/Hungary program have been first loss on recovery, vis a vis the FIs. In this case, the relatively small percentage guarantee provided (less than 10% of the FIs' exposure on the guaranteed portfolio of projects) provides adequate incentive to avoid moral hazard associated with the FIs' incentives to maintain good credit practices vis a vis the GEFs' exposure.

Is Russia ready for this type of intervention?
Yes. IFC has been working in Russia in the SME and financial sectors intensively for the past five years. EBRD and IFC's pioneering work in the Russian financial markets has provided an important foundation to enable this targeted "deepening" of several key FIs into the EE lending business at this time. The response of the participating Russian FIs during IFC's EE finance workshop in October 2003, and during subsequent planning meeting with FIs interested in working with IFC on EE finance indicated institutional readiness and a viable project pipeline.

Why is the facility executed by IFC, instead of by a local Russian institution? If the program is executed by IFC, how is the capacity sustained in the market?
There are several reasons why it is important that IFC execute the Program. The first is from a risk-management perspective: IFC is placing between $20-30 million of its own capital at risk in the credit lines. With the exception of fund investments – where the expected rate of return substantially reflects the risk equity investments undertaken by dedicated fund managers, IFC's fiduciary management norms do not enable outsourcing of credit decisions associated with managing such a debt facility. Further, the expertise developed by IFC in HEECP and CEEF, and the financial market experience in Russia (and other analogous developing financial sectors) provides a unique capacity which will be instrumental in navigating the challenges of the highly transitional Russian market.

The capacity which FEER was conceived to build is not related to the execution of the Program, but rather to the development and execution of commercial financial products and, ultimately, the building of a sustainable lending business in competitive commercial FIs. The sustainability of the Program derives not from the perpetual delivery of credit lines, guarantees, and TA, but rather from the capacity developed in the financial markets

for delivering financial services providing debt and other instruments to support EE investment.

8. Monitoring and Evaluation

8.1. Overview

The monitoring and evaluation (M&E) will be designed as a participatory process integral to the Program's implementation. The goal is to assess the Program's progress and achievement of results, test key assumptions in design, and, at the same time, promote stakeholder ownership of the Program. FEER participants and stakeholders will monitor the Program outputs using data collection tools and will be interviewed regularly as an integral part of the process. This will enable capacity-building and rapid understanding and application of lessons learned during the course of the Program's operations. Thus, the Program's M&E framework will serve several purposes:

- Monitor progress towards Program and GEF objectives;
- Strengthen Program performance and management by providing feedback on implementation;
- Provide a base for technical and financial accountability.

The M&E framework will assess the Program's (i) impact on EE projects supported by credit lines, guarantees and TA and implemented by the EE/ESCO businesses, (ii) impact on participating FIs, (iii) impact on the Russian markets both regionally and nationally, and (iv) management and operations. Building on the LogFrame (see Annex 1), the M&E plan will identify appropriate indicators to assess the Program's financial/business, energy, and environmental outputs, as well as its outcomes. This should include measuring its market impact to assess whether or not it has achieved its primary objective of establishing a sustained market capability to develop EE projects and an expanded market for EE project finance. Additionally, the M&E process will also allow for an assessment of management and operations ("process evaluation") of both the investment and technical assistance programs.

IFC will collect data for the M&E through a combination of self-reporting by Program participants, implementation team record keeping, and third party investigations . IFC will employ a third party M&E contractor to provide independent verification, analysis and reporting of findings.
The key M&E deliverables are:

- Data collection tools and training to the project implementation team on using them
- Baseline data
- Annual, real-time feedback to management on Program implementation
- Midterm review during the third year of operation
- Final process and impact evaluation in 2009

The M&E workplan will be developed prior to CEO endorsement.

8.2. Specific Requirements for the monitoring and evaluation system

Programs' impact on participating FIs

We will evaluate the effect that the Program's financing facilities and TA have had on participating FIs. We will particularly monitor any changes that occur over the life of the Program in the FI's lending patterns, especially in the types of loans for which FIs use guaranteed versus non-guaranteed capital and the use of IFC (or other IFI) dedicated credit lines versus untied resources. Such a change will likely be evident both from an analysis of the FIs' self-reporting and from interviews with the FIs.

Program's impact on EE projects supported by the financing facility and implemented by participating EE/ESCO businesses

IFC will introduce mechanisms for collecting and verifying data that provide evidence of emissions reductions, which will combine team efforts of records keeping and outsourcing several tasks to external M&E Contractor. Monitoring tasks will include:

- review the files and calculations of energy savings estimates that were made before the EE projects were approved for financing (and which will form a part of the loan documentation);
- train the ESCOs and local engineering firms on how to collect energy savings data during EE project development and implementation, and provide them with any templates and tools, if needed;
- define the methodology to confirm actual energy savings and GHG emissions reductions achieved by projects once they are implemented;
- train the ESCOs and local engineering firms on how to calculate the GHG emissions reductions achieved by their projects and provide them with any necessary templates and tools;
- use this post-implementation methodology to check all large or complex projects and a sample of smaller EE installations to see whether the expected savings were actually achieved; and,
- summarize results in periodic reports to IFC and maintain project files 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. Key variables may include: combustion efficiency of new boiler systems, customer energy loads, generation output of boiler systems, efficiency of end-use equipment, production data, 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 the cooperation of project participants including the implementing contractor, and the energy end-user; this will be accomplished through appropriate provisions and commitments in the loan documents and enforced through the Financing Facility Agreements (FFAs) that IFC signs with the FIs. Site visits to projects may be necessary. The M&E contractor will also evaluate the impact of the Programs' TA activities on participating ESCOs and engineering firms.

Programs' impact on the Russian markets (national and regional)

The Program's objective is to accelerate the development of the commercial EE finance market by changing the behavior of key market players (FIs, ESCOs, some energy end-users, relevant government agencies, etc.). A key aspect of the M&E work program will be to gauge FEER's achievement of this goal. We expect that the EE projects FEER supports will have a demonstration effect in the market. We further expect that TA activities will build the capacity and interest of market players to implement EE projects. In some cases, the Program's activities may lead to changes in regional or national policy that will also have significant market impact. These may include the adoption of new procurement methods that allow private sector ESCOs to develop and implement EE projects for public sector entities, or the development of legally enforceable property ownership structures for cooperative housing that enable the use of commonly-owned property as security for bank loans (as happened in Lithuania). The M&E program will assess the Program's impact on the market by monitoring the indicators noted in the LogFrame and any other appropriate indicators of changed market behavior.

Programs' management and operations

The FEER evaluation involves a review of, and an opportunity to update, the key theses underlying the Program design and structure. Is IFC effective in achieving its desired market impact and how is it doing it? How has a commercially sustainable EE/ESCO industry been fostered under the Program? Are the TA products well defined and effective in achieving their stated purpose? Are the Program's financing products effective in motivating FIs to increase their EE finance activity, or is something else needed? Is there continuing demand for the financial products? What is the continued relevance of the financial products to the various users? Are there other variations on or changes to the Program's structure that would make it more effective? What lessons for EE finance and EE project and business development are being gained? Is the Program effective in communicating and making available these lessons and experience to others? What strategies should the Program be considering to maximize its indirect impacts and demonstration value? Are the Program's environmental, economic, and social benefits likely to continue post-Program?

We will also review progress in Program implementation including management, administration and procedures in order to assess its effectiveness. Areas IFC will assess include: clarity and ease of procedures for processing transactions and TA grants by both IFC, 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.

Methods used to conduct the evaluations will include review of the Program documents and structured interviews with the Program staff, management, participants and stakeholders. An external evaluator will conduct structured interviews with:

- Program staff and management;

- Staff from participating FIs;
- Staff from prospective partner FIs;
- Engineering consultants, ESCOs and EE businesses participating in projects supported by the guarantees, credit lines, and/or TA;
- Relevant Government officials and EE NGOs, including those participating in each country's Program Advisory Committee;
- Interviews with any prospective Program participants who have investigated the Program but for whatever reason, failed or declined to participate; and
- Interviews with any other stakeholders who are identified.

8.3. Management of Monitoring and Evaluation Activities

Given the pilot nature of the FEER Program, M&E is even more of a priority than in other GEF-funded activities. The FEER Program is complex in the number of stakeholders that will be involved in developing the market for EE financing in Russia.

The monitoring and evaluation will be carried out by a combined team comprising:

- An independent M&E contractor responsible for annual surveys and midpoint/final evaluation.
- A staff member in the implementation team responsible for designing the M&E plan and tracking all available data on a regular basis, and maintaining all the files necessary for data verification and analysis.
- Engineering contractors responsible for confining GHG emission reductions at the project level.
- Financial institutions providing reports on their loan portfolios.

A budget of $200 000 has been set aside for contracting external monitoring and evaluation contractors.