

## Case Study 71 Poland: Efficient Lighting Project



**Objective:** This pilot project is designed to reduce greenhouse gas emissions in the electricity sector by building demand in the Polish market for CFLs and other lighting products. The goal is to rapidly replace 1 150 000 incandescent bulbs with CFLs over two lighting seasons.

**Location:** Poland

**Website:** <http://www.ifc.org/enviro/EPU/EEfficiency/PELP/pelp.htm>

### Description:

**Key Stakeholders:** International Finance Corporation (IFC), Global Environment Facility (GEF), Netherlands Energy Company B.V., Polish Power Grid Company (PSE), Gliwice (GZE) and Warsaw Power Distribution Companies (WZE), Polish manufacturers of CFLs, (1995 - Present)

**Financing Mechanism:** A \$5 million GEF grant channelled through the IFC will enable a manufacturer's wholesale cost reduction designed to increase residential consumer purchases of CFLs. The full incentive must be passed on to the retailers, and further "pass-throughs" will be maximized. By targeting domestic manufacturers of CFLs, import duties of 15% are avoided.

### Lessons Learned:

The direct manufacturer subsidy is a critical tool for lowering the retail price of CFLs to a level that will induce consumer purchases.

The IFC/GEF Poland Efficient Lighting Project is a utility DSM program funded by a \$5 million grant from the GEF to provide financial incentives through Polish manufacturers of lighting products to residential and commercial end-users. The program is administered by the Netherlands Energy Company B.V. for the IFC. One important aspect of the project is to build the capacity of selected Polish electric distribution companies to implement DSM programs.

The level of price discount was preliminarily determined to be \$3.05/unit for integral CFLs. The program utilizes several distribution channels, including established manufacturers' distribution systems, retail sales shops, bill payment locations for GZE and WZE, and emerging CFL manufacturers' networks.

## Case Study 72 Magyar Hitel Bank Energy Savings Office



**Objective:** Using German coal aid funds earmarked for an energy efficiency revolving fund, the Magyar Hitel Bank Energy Office makes loans to various energy end-users for energy efficiency investments.

**Location:** Hungary

**Website:** <http://www.ecee.org/pubs/hungary.htm>  
<http://www.mkb.hu/english>

### **Description:**

**Key Organizations:** Magyar Hitel Bank (MHB) and Energy end-users, (1991 - Present).

**Financing Mechanism:** A revolving fund established with assistance from the German Coal Aid Fund (this also complied with a restriction of the provision of aid). In 1991, the fund was valued at approximately \$13.4 million; it has subsequently grown to almost \$29.6 million.

### **Lessons Learned:**

- A revolving fund can be a very effective strategy for promoting energy efficiency.
- Cooperation among technical and financial experts improves the quality and cost-effectiveness of loan review.
- Restrictions established by bilateral donors can provide critical direction to local programs.
- Training for MHB personnel was essential in developing the capacity within the bank to administer the fund.

MHB administers an energy efficiency loan program funded from German coal aid to Hungary. Sixty percent of these funds, or almost \$13.4 million, were earmarked to establish a mechanism that would finance energy efficiency investments. Since its inception in August 1991, 430 applications were processed by MHB, resulting in loans totalling \$40 million. There have been only two defaults to date. One of the unique features of the MHB revolving fund is a loan review process that puts loan applications through parallel technical and credit reviews. The technical review is conducted by a jury of specialists drawn from several institutions in Hungary, including several engineering institutions. Their activities are funded by a 0.5% fee assessed on each loan.

The most significant aspect of the lending criteria is that the savings have to be demonstrated in the form of lower energy usage. Specifically, a prospective borrower needs to demonstrate to the bank that its project would save 500 GigaJoules for each HUF 1 million (\$6,500 at current rates) lent, and that at least one half of the funds will be applied in pursuit of energy savings. There is no concession made to monetary savings alone.

The maximum lending limit is HUF 50 million and the bank will allow an 85:15 debt-to-equity ratio. Money can be lent for a maximum of eight years on a term loan basis, with a two-year grace period.

## Case Study 73 Proven Alternatives Capital Corporation / Banque Paribas Fund



**Objective:** Proven Alternatives Capital Corporation (PACC) developed a \$30 million fund with Banque Paribas to finance performance contracts. Target investments are commercial, industrial, and institutional energy efficiency programs and projects.

**Location:** USA

**Website:** <http://www.weea.org/worldwide/reports/html/053/Chapter4.htm>

### Description:

**Key Stakeholders:** Proven Alternatives Capital Corporation, Banque Paribas (1994 - Present).

**Financing Mechanism:** The \$30 million PACC/Banque Paribas Fund, underwritten by Banque Paribas, provides financing structured on a non-recourse basis, with the collateral security for each project's financing limited to the physical assets, contracts, and cash flow of the project.

### Lessons Learned:

- Establishing criteria for automatic approval is an important goal, but the process is still more cumbersome than necessary
- Firm agreement of approval turn around time (with penalties) is critical
- The originator of the project must have sufficient internal resources to support the required analyses
- The fund should have a flexible funding mechanism for non-standard approvals and streamlined documentation requirements

In 1993 Proven Alternative Capital Corporation, a merchant banking organization, organized a non-recourse financing pool for energy efficiency projects. This fund, currently performing above projections, pools many projects into one portfolio, thereby increasing the credit strength of the overall portfolio and reducing the interest rate. PACC's role includes fund administration, loan documentation, structuring customer contracts and negotiating non-standard approvals. The target investments for the PACC/Banque Paribas Fund include commercial, industrial, and institutional energy efficiency programs and projects. The minimum project size is \$1 million, although smaller programs have been approved where additional considerations existed (e.g., it was the first project in the development of an overall program). To maintain the balance of the portfolio, \$5 million is the maximum project size. Loan maturities range from 5 to 10 years.

Specific credit and technical criteria were established to create a relatively automatic and smooth approval mechanism. Programs that meet the pre-approved criteria are not required to go through a detailed approval process. This mechanism enables a rapid turn around time and also helps to maintain a low overall cost of capital. PACC first reviews the structure for pending investment opportunities; this ensures that projects submitted for financing will be approved either through the automatic mechanism or with as little additional review as possible. PACC has developed a thorough underwriting and review process that identifies all key risks and eliminates or prices for these risks.

## Case Study 74 Mexico: Industrial Motors Pilot Project



**Objective:** To demonstrate the technical and economic feasibility of optimizing industrial motor and drive systems.

**Location:** Mexico

**Website:** <http://www.nrel.gov/tcapp/mexico.html>

### Description:

**Key Stakeholders:** Equipment vendors, Medium-sized industries in central Mexico, FIDE, CFE, USAID, (1993 - Present).

**Financing Mechanism:** Two forms of financing are being utilized in this pilot project: vendor financing for industrial motors and adjustable-speed drives, and a revolving fund to offer attractive packages for longer-term efficiency measures.

### Lessons Learned:

- Although this project has been slowed by the general financial difficulties in Mexico, it does represent a creative use of development support to harness vendor lending programs.
- Organizing the market makes traditional vendor financing part of an overall efficiency program.

The project considers all types of energy efficiency measures related to these systems, including maintenance and the purchase and installation of motor control systems, high-efficiency motors, high-efficiency transmission systems, and adjustable-speed drives. As part of the pilot project, vendor financing packages are being developed for the end-user as an incentive to implement energy efficiency measures with longer payback periods.

The Industrial Motors Pilot Project is an innovative initiative between USAID's Energy Efficiency Project and Fideicomiso de Apoyo al PAESE (FIDE). The core of the program consists of motor system audits conducted in 20 medium-sized plants (with monthly maximum demand ranging from 750 kW to 2,000 kW) in the central region of Mexico. The audits are performed by local consultants, paid for by the pilot project budget, and are performed at no cost to the industries. However, prior to the audit, the end-user signs a contract with FIDE agreeing to implement all measures with a payback of less than 6 months or reimburse the cost of the audit.

The project involves equipment manufacturers and vendors in its promotional and technical activities. Participating industries either applied directly for the audits or were recommended by industrial associations or groups. The selected plants represent a cross-section of industries; the majority of the participants come from the food, chemicals, textile, and mechanical assembly industries. As part of the project, financing packages are being developed as incentives for the industrial plants to implement the longer-payback measures.