Draft Phase I Report
ESMAP Innovative Finance Program in Poland

The ESMAP Team began operations in June 2004. Since that time, all Team members have been active in their respective areas of assignment and the Team Leader has made 2 trips to Poland. In addition, weekly reports and several video conferences have served to enhance communication and coordination. (see Trip Reports and Weekly Reports attached.) The specific activities and accomplishments as they relate to the Tasks identified for Phase I are outlined below.

A. Establishment of the operating framework for the financial intermediary.

<u>Task A.1 – Identify Initial Projects</u>
With a regional focus provided by the World Bank in consultation with BOS Bank, to identify a group of potential projects and borrowers that are interested in financing energy efficiency investments. Identify potential sources of co-financing which may include other financial institutions, ESCOs, etc.
Milestone/output - Draft letters of interest from borrowers, draft investment memorandum, and creation of an Investor Committee of prospective lenders.

<u>Projects.</u> The ESMAP Team has met with officials from the District Heating Company in Gdansk (GPEC), the Marshall's Office in Gdansk, the Marshall's Office in Warsaw, City officials in Czeladz and City officials in Olsztyn. Based on the interest and commitment of the interested parties, and based on input from the World Bank manager Peter Johansen, the Team is now focusing on the following projects:

- the Brodnowski Hospital in Warsaw
- six public buildings in Czeladz.
- 14 housing cooperatives in Gdansk serviced by the GPEC district heating company

The Team feels these projects would be widely replicable in Poland and offer opportunities to demonstrate several different financing models. Further, given the poor physical and financial condition of most hospitals in Poland, negotiating a financing model for needed upgrades in the Brodnowski hospital could be a very positive step toward resolving one of the most intractable problems facing public facilities in Poland. In each of the three areas, the Team has agreed to pay for initial audits to use in discussions with both the borrowers and lenders. A summary of the projects is listed below:

14 Gdansk Housing Cooperatives

Working with GPEC management, we have identified 14 housing wspolnoty for TM (thermomodernization) upgrades. The financial statements of each wspolnota have been provided to the team and analyzed. Based on these financial statements, we developed general profiles for each housing project (See attachment A). We focused primarily on the renovation account of each wspolonta as this is one of the primary factors local banks used to determine project eligibility. Monthly contributions are made to the renovation account based on the size of each housing unit.

BISE and BOS banks have developed programs that will provide up to 10 year financing for TM projects if annual debt service payments are equal to, or less than, 70% of the funds held in the renovation account. This provides a simplified credit evaluation process for TM projects and, in essence, allows the renovation funds to serve as a surrogate for energy savings.

The 14 wspoloty projects, however, do not qualify for these programs as their renovation accounts are insufficient to cover debt service payments and they lack the 20% equity requirements. As a general rule, housing managers will spend down the renovation account throughout the year to meet needs as they arise. They do not typically attempt to accumulate funds in this account to qualify for financing. As a result, year end balances of the renovation accounts reflected a negative balance when adjusted for accruals. This analysis was not a deal stopper as we knew from discussions with housing management that they would consider accumulating funds in their renovation accounts to qualify for TM financing.

We then commissioned preliminary energy audits for all 14 wsponalty to determine the need and expense of TM improvements. The fundamental aim of the work was to estimate the optimized scope of TM improvements to be undertaken in the 14 residential multifamily buildings. The scope of the work focused on:

- assessment of the status quo of the buildings in view of thermal insulation of walls
- proposal of TM measures leading to reduced energy use in buildings
- selection of optimized variations of TM measures.

Detailed below is a summary of the preliminary audits presented in the context of the Thermo-modernization Program (TMP) which provides 25% loan forgiveness for qualified TM projects. (See attachment B for preliminary energy audit reports).

Estimated Energy saving and Financial parameters of TM for 14 buildings in Gdansk							
no	address	Investment outlays	loan	own equity	TMP bonus	heat cost savings	heat use savings
		PLZ	PLZ	PLZ	PLZ	PLZ	%
1	ul. Dunikowskiego 7	452624	362099	90525	90525	49949	28%
2	ul. Dunikowskiego 9	660110	528088	132022	132022	73960	27%
3	ul. Kolobrzeska 54	1767874	1025367	742507	256342	122557	31%
4	ul. Kolobrzeska 56	571904	457523	114381	114381	65464	17%
5	ul. Kolobrzeska 58	1754674	1017711	736963	254428	121283	32%
6	ul. Lozy 9	660110	528088	132022	132022	70963	27%
7	ul. Wyzwolenia 19	792900	594675	198225	148669	71312	42%
8	ul. Wyzwolenia 29	565308	452246	113062	113062	65976	27%
9	ul. Zwiazkowa 4	488797	312830	175967	78208	37571	38%
10	ul. Zwiazkowa 6	491965	314858	177107	78714	37918	39%
11	ul. Zulawska 1	488149	312415	175734	78104	37633	39%
12	ul. Zulawska 2	470005	305503	164502	76376	36408	38%
13	ul. Zulawska 4	488149	312415	175734	78104	37671	41%
14	ul. Zulawska 5	470005	300803	169202	75201	36259	39%

It was clear from review of these audits that while energy savings were substantial, full implementation of all proposed TM measures was well beyond the financial capacity of the wspolnoty.

To address this issue, we rationalized the proposed TM improvements in the preliminary energy audits from least expensive to most expensive with projected energy savings and simple payback periods for each set of TM options (See attached C for this analysis). As a general rule, the least expensive options involved insulation of the roof, followed by replacement of windows in stairwells, insulation of exterior walls without windows, insulation of exterior walls with windows, and finally internal heat systems upgrades. This analysis was done to determine the extent of TM improvements that could be supported by the housing projects with current renovation accounts. It revealed that only TM options 1 (roof insulation) and options 2 (replacement of stairwell windows) generally produced simple payback periods of less than 5 years.

We then calculated annual debt service payments (based on 5 year financing at 8%) for each option as a percentage of annual energy savings to reach a debt service coverage ratio for each option (See attachment D). We hoped that for projects where projected annual energy savings exceed annual debt service payments by a factor of 2 to 1or better, banks might require lower equity payments from the housing projects. We shared the findings with BISE and BOS banks. Both banks indicated that these coverage ratios were of marginal interest and would not reduced their equity requirements. Based on this analysis, is was determined that none of the projects would qualify for financing under the BISE or BOS bank programs because they could not meet the banks' equity requirements.

It was clear from this initial round of consultations with local banks that financial intermediation and financial intervention would be necessary. The local district heating company that provide heat to these housing projects, GPEC, has expressed a desire to help facilitate TM improvements. Their assistance will be critical to the success of this effort.

Brodnowski Hospital in Warsaw.

The Brodnowski Hospital is the largest and best known hospital in Warsaw. The hospital complex consist of six buildings and the projected cost of full TM improvements for all facilities is 22 million PLN.

The hospital project presents a real challenge. The sector is considered bankrupt and not credit worthy. However, the Marshall's Office is committed to supporting upgrades to this hospital, and to exploring innovative financial arrangements. As a last resort, the Marshall's office will offer a full credit guarantee for a TM loan. The hospital also has a very competent and forward looking new hospital administrator. We have the hospital's financial statements and a full TM energy audit of one of the six hospital buildings. We will be commissioning full TM audits for the other buildings. The Chairman of the Regional Environmental Fund's (REF) Supervisory Committee, is also supportive and willing to commit resources to this effort.

The financial condition of the hospital has improved over last three years.

7 million PLN deficit 02
4 million PLN deficit 03
0 million PLN projected deficit in 04

The hospital currently has 28 million PLN in outstanding debt that will be refinanced with a Marshall's guarantee. Interest rate and penalty cost savings will help improve the hospital's financial conditions.

Public Buildings in Czeladz

The Mayor of Czeladz is supportive of the option of using the REF to leverage private investments in TM projects. The breakdown of financing of the first TM project realized in the city was 25% bank financing and 75% REF grants, soft loans and city funds. The Mayor would like to finance the next 6 projects at 75% bank financing and 25%

government funds. He maintains that although this would increase city debt, the city is well within the statutory debt limits. He also realizes that the number of TM projects that can be financed primarily with government funds is limited.

We agreed to fund preliminary energy audits of six city buildings and use that information for discussions with the REF and banks regarding a financial structure that would produce maximum leverage. He agreed to repay audit costs if projects are financed.

Investors. The Team has also met with a number of potential lenders including the Overseas Private Investment Corporation in the U.S., and BGK, BOS Bank, BISE Bank, Nordea Bank, Bank Pekao and others in Poland. Of these, BISE and BOS Bank have the most prior experience in the field and are the most engaged. Nordea is also interested.

Rather than establish a formal “Investor Committee,” the Team is proceeding by discussing potential financing models with individual banks. This allows the Team to get a sense of the distinctions between lenders and seek the most beneficial arrangements for the borrowers. It also allows the Team to establish working relationships with competing banks and determine which bank may be the most amenable to innovative solutions.

For example, both BISE Bank and BOS Bank have lending programs aimed at housing cooperatives. BISE has indicated they would consider lending to housing projects up to 10 years for TM projects even if the projects did not qualify or benefit from the TMP. Limitations on loan maturities would be based on a number of factors including the pay back periods of the modernization project. BOS’s lending criteria for housing projects is similar, although a bit more conservative. They will lend up to 10 years with a 20% down payment (which may be modified by the credit committee on a case-by-case basis). For loans below 300,000 PLN, BOS requires that the housing cooperative pledge renovation account (RA) funds as collateral and place RA funds in an account at BOS. For projects over this limit, the housing cooperative is required to provide a promissory note signed by all members of the housing cooperative.

Neither of these lending products is being fully utilized. The Team is discussing possible modifications and/or additions to the products with both banks. The Team is also discussing possible structures for financing hospitals with the BISE bank. As a result of looking at specific projects, the BISE bank may become more interested in the World Bank loan guarantee program being offered through BGK.

Task A.2 – Financial Structure

Develop appropriate financial structure for special purpose entity (SPE) or another type of financial intermediary for the projects identified. Discuss with local officials, interested parties and the Investor Committee. Issues to be considered are legal status, ownership and location of SPE, management of SPE, tax implications, risk allocations, regulatory requirements, accounting and off-balance sheet benefits, and debt limitation laws among others. In assessing the various intermediary arrangements, economics and cost competitiveness of each option need to be evaluated. *Milestone/output - local officials and Investor Committee approve recommended financial structure.*

The Team has recommended two separate financing structures to deal with the housing cooperatives and the Brodnowski hospital in Warsaw. Further options are still being considered for the public buildings in Czeladz.

Financial Structure - Housing Cooperatives

With respect to the housing cooperatives, GPEC has offered to play a facilitation role which could involve some form of equity investment or guarantee.

Detailed below are the options we proposed to GPEC.

Option #1

GPEC provides the necessary equity contribution for Thermo-Modernization (TM) projects to meet lenders' equity requirements.

In response to this option, the Director of GPEC proposed the following as potential equity investments. We will discuss these ideas with banks.

1. financing housing co-op's heat substation ("wezel cieplny") modernization. Under this arrangement the renewed heat substation becomes the property of GPEC and the heat price goes up (but not more than 12%) – which is a compensation to GPEC to cover the costs of the investment;
2. offering to undertake internal heating system modernization (pipes and so on) by GPEC at a prices below the market. We assume that this could be achieved by using underutilized GPEC employees and bulk purchase discounts. GPEC would invoice separately for these improvement and allow a payback period of up to three years. GPEC is not prepared to subordinate their loan, but may be willing to schedule debt service payments to allow banks to capture principal repayment more rapidly than GPEC in the early years of their loan. We will discuss this option with local banks

Theses two actions might be treated as the housing co-ops' equity down payment from the banks' point of view. This will be reviewed with local banks.

Option #2

GPEC provides some form of energy saving guarantee to the extent necessary to cover periodic debt service payments. This would involve GPEC collecting existing utility payments at current levels (adjusted for fuel prices) from housing associations and using the energy savings resulting from the TM project implementation to cover debt service payments. This guarantee would stand behind the pledge of the housing associations' renovation accounts as collateral. This option would require limited outlays by GPEC but raises accounting, tariff setting, and administrative issues. GPEC management declined to pursue this option.

Option #3

The housing associations take out TM loans to the extent they qualify under lenders' standards. In most cases, this would limit loans to the first TM options which have high rates of return (short pay back periods). GPEC would undertake the more extensive TM options through self- financing or loans on GPEC's balance sheet. This option, however, would involve greater outlays of GPEC resources per project than the equity option and may limit the number of projects where GPEC could assist. GPEC management expressed interest in this option through a non-for-profit or trust arrangement that would move the loans off their balance sheet. This structure is similar in many respects to state revolving funds. GPEC expressed an interest in capitalizing such a trust with as much as 12 million PLN.

Option #4

The housing associations undertake the TM projects that are financeable under existing lenders' standards. Again, these would be limited to the smaller but higher rate of return TM projects. The other TM project options would not be implemented at this time. As the financial and commercial markets become more comfortable with TM investments, the more expansive projects would be financed and implemented. To make this option attractive to banks, we would need to develop a pooling or warehousing function that would make lending to such small projects partial? and affordable to banks.

In addition to the options outlined above, GPEC management is considering establishing an ESCO-type company together with the CHP in Gdansk ("Elektrocieplownia Wybrzeze") owned by EDF. GPEC is ready to spend some PLN 15 mln on capitalizing this company and expects the same obligation from EDF. They have the support of their German parent company – that has already established a similar and profitable company in Eastern Germany.

The Team feels that the "ESCO" option is very similar to the SPE approach originally envisioned for the ESMAP project. GPEC could still pursue any of the options outlined above in the "ESCO" or "SPE" role.

As GPEC is just beginning to analyze this approach, they expressed interest in receiving some specialists' help in preparation of the business plan and asked to have the ESMAP team work with GPEC in evaluating this approach. Mr. Dec is aware of the Word Bank's program in Krakow and thought GPEC could learn from that experience. Several Team members went to Gdansk to meet with Mr. Dec. The Team will continue to discuss this approach with GPEC.

Financial Structure - Hospital

Following initial discussions with banks, the Team developed the following financial structure to finance TM upgrades for hospitals.

<u>Hospital Finance Structure</u>

1 million Zloty Project – 10 year financing at 10%

Project with 5 year simple payback period

<u>Finance Structure</u>

500,000 Z	**50% Commercial Loan**	**Thermo modernization program loan forgiveness of 25% = 125,000 Z**
		70% of remaining loan amount guaranteed by BGK 262,000 Z
500,000 Z	**50% EU Grant**	**Grant application filed with Marshal's Office**

<u>Credit Enhancements</u>

	First Reserve Account
Hospital Payment	**Payment equal to 3 months of previous years heat and utility bills. Payment made from funds received by national government, placed in Escrow Account – First Loss**
	Second Reserve Account
1 Year Debt Service	**Grant from Regional Environmental Fund placed in Escrow Account – Accessed only after Hospital Escrow Account depleted**

<u>Leveraging</u>

EU Funds 2 - 1

Regional Environmental Funds 10 – 1

The team leader, Brad Johnson, met the Vice President of BISE Bank at a conference in Washington and invited him to discuss the ESMAP project and more specifically, options for financing hospitals. He was interested and requested more discussion in Poland. In follow-up meetings, the bank expanded on the initial structure as follows:

Using a 50% commercial finance and 50% EU grant scheme BISE will lend to Hospitals for the 50% commercial finance if:

1. Annual EE savings exceed debt service (i.e. project cash flow can pay off the debt)
2. At minimum, 50% of the loan is guaranteed by the Government or the BGK et al.
3. 6 months of the Hospital's annual energy bill is deposited in an escrow account to cover short-term debt service problems
4. A portion of the National Fund payments to the Hospital get earmarked as for energy costs and these flow through into a special BISE account which is used as the primary source of DS payments. (This means the hospital never gets to commingle these funds with general ledger funds.)

Item 4 is the main source of repayment and item 3 provides a short term cushion in case item 4 is insufficient. Item 2 is the final fall back in case the loan does not work at all and Item 1 is a basic test of economic efficiency for the project.

BISE would like the EE savings (in terms of cash saved by the Hospital) to be guaranteed by the contractor but we pointed out that this was difficult to guarantee since usage patterns change and many EE contractors cannot provide a 10 year multi million PLN guarantee. BISE said they would not require a guarantee but would certainly seek a reputable contractor.

<u>Task A.3 – Credit Enhancement Options</u>

Evaluate credit enhancement options for financial intermediary to access including World Bank loan guarantee through BGK. Other options may include IFC guarantees, OPIC insurance, local Polish insurance coverage, over-collateralization, funded reserve accounts, and no-lien escrow accounts.

Milestone/output - Execution of umbrella credit enhancement agreement with appropriate party.

The Team continues to discuss the use of the World Bank/BGK loan guarantee with both lenders and borrowers. The Team has not yet engaged BGK in detailed discussions of how the loan guarantee program might apply to the financing structures being discussed. The Team feels the unique financing structures being discussed for each of the three project areas need to be more fully defined for these discussions to be most useful. At this point, the banks are willing to consider funded reserve accounts and no lien escrow accounts in addition to loan guarantees.

Further, the Team is also considering the use of equity investments from GPEC and the City of Czeladz, and guarantees from the Regional Environmental Fund as credit enhancement options. The Team will not be able to execute an umbrella agreement until the projects are more fully developed and the other lending terms have been more thoroughly explored.

Next Steps

Housing projects

We will contract with NAPE to conduct full TM energy audits for 4 of the Gdansk housing projects. The 4 projects selected were based on common management and common structural design. These audits will be useful in developing a financial structure.

We estimate that the audits should be completed by mid-December.

Although we have a financial commitment from GPEC to assist in the implementation of TM housing projects, and banks interested in innovative financial structures, all of the elements of a successful financial program are not in place at the moment. We will work with GPEC, local banks, and housing management to develop a financing structure that is innovative and replicable. This will be a challenge as the terms of GPEC's financial commitment are not compatible with existing local bank lending programs, and the Wsponolty are not able to qualify for TM financing on their own.

The first phase of the financial structuring will involve tailoring GPEC's financial commitment to meet local bank lending requirements. Given GPEC's desire to channel their financial commitment through an off-balance sheet entity, we will consider various financial intermediation options to facilitate this process. We will then discuss these options with selected local banks to determine which option is most acceptable. We will also work with housing management to ensure that the structures we devise will be acceptable to them. This tripartite dialogue will require considerable time and energy but is necessary to ensure that the final structure is successful. We will also consider possible contributions of other parties and programs including EU grants and environmental funds.

We estimate that this will take approximately 4 months.

Once a structure is established, we will begin drafting financial agreements, underwriting criteria, financial intermediation operational guidelines and procedures. and other necessary legal agreements to implement the financial program.

We estimate that this will take 6 months after the financial structure is established.

Hospital project

We will contract with NEPA to conduct full TM audits of the Brodnowski facilities. The costs of these audits will be $14,000.

We estimate that the audits should be completed by mid-December.

Discussions with BISE bank and the Marshall's office will continue until we reach an agreement on the lending terms and conditions that are acceptable to both parties. With regard to the second reserve account to be capitalized with REF resources we have offered to help the REF set up this reserve account for Brodnowski and other hospitals in the region. Special modifications to REF polices will be needed to allow the REF to play this role in the financial structure. We will work with REF management on this initiative which must be adopted by the end of this year.

We will evaluate the issues associated with the use of EU funds in conjunction with other government program funds to make the financial program replicable for other hospitals. Our work with the REF will be part of this effort.

We estimate that this will be completed by early next year.

After we reach agreement on the financial structure we will draft the necessary financial documents for implementation.

We estimate that this will be completed 6 months after the structure is determined.

Czeladz

We will fund preliminary energy audits for 6 public buildings and use these audits for the propose of evaluation of alternative financial structures.

We estimate that these preliminary audits will be completed before the end of the year.

We have committed to provide the Mayor with spread sheet calculations of various leveraging strategies of REF resources for implementation of TM projects. These calculations will be presented to the REF management with the Mayor's support.

We estimate that this will be done early next year.

If the REF commits to this structure, we will engage local banks to determine the best terms and conditions for financing the TM projects through one financial mechanism (most probably a master lease agreement) and will draft the necessary documentation.

We estimate that this will be completed 6 months after the financial structure is established.

ESMAP Team Composition

The composition of the ESMAP team will be modified for Phase II to more appropriately allocate professional resources for the tasks ahead of us. In this regard, the following changes will be made:

- *Econergy's role will be focused exclusively on quality control of technical services provided by Polish energy auditing firms. This will include evaluation and comment on all preliminary and full energy audits.*

- *Adam Pools team will be reduced to Adam Pool and Rafal Malecki. In view of the fact that we have now identified a sufficient number of local lending institutions for purposes of evaluation of alternative financial structures, Adam's team can now focus exclusively on presentation documents for banks and dialogue with bank representatives. For purposes of continuity, this responsibility should fall to no more than two individuals who can follow through on matters discussed in these meetings.*

- *We will add a local law firm to the team for purposes of evaluation of legal issues and drafting transaction agreements. RMA will be responsible for providing the local law firm with transaction documents from other countries that may provide guidance in the drafting of Polish legal documents. RMA will also oversea the drafting of these documents but will not render legal opinions as to the force and effect of agreements under Polish law.*