

P.N. AB 8-150

2 2 1 1 0



**Project in Development and the Environment**

**Final Report:  
PRIDE Environmental Business  
Activities in Eastern Europe**

April 1993

**Submitted to:**

USAID

**Submitted by:**

PRIDE

**AID Contract Number:**

ANE-0178-Q-00-1047-00

**AID Project Number:**

398-0365

**Sponsored by:**

USAID

**Operated by:**

Chemonics International  
and its associates

2000 M Street, NW, Suite 200, Washington, DC 20036  
Telephone: (202) 331-1860 · Fax: (202) 331-1871

The objective of the Project in Development and the Environment (PRIDE) is to help the U.S. Agency for International Development (AID) design and implement programs that foster the agency's environmental and natural resources strategy for sustainable economic growth in the Near East and Eastern Europe.

PRIDE provides AID and participating countries with advisory assistance, training, and information services in four program areas: (1) strategic planning, (2) environmental policy analysis, (3) private sector and NGO institutional strengthening, and (4) environmental information, education, and communication.

The project is being implemented by a consortium selected through open competition in 1991. Chemonics International is the prime contractor; subcontractors include RCG/Hagler, Bailly, Inc.; Science Applications International Corporation; Capital Systems Group, Inc.; Environomics, Inc.; Industrial Economics, Inc.; Lincoln University; and Resource Management International, Inc. In addition, AID has entered into a cooperative agreement with the World Environment Center to support implementation of PRIDE.

The opinions expressed in this paper are those of the author(s) and do not necessarily reflect the positions of the sponsoring agency or contractors.

**Final Report:  
PRIDE Environmental Business  
Activities in Eastern Europe**

by  
Kenneth J. Macek  
PRIDE Environmental Business  
Advisor for Eastern Europe

April 20, 1993

---

## TABLE OF CONTENTS

---

	<b>Page</b>
ACRONYMS	i
EXECUTIVE SUMMARY	iii
SECTION I INTRODUCTION	I-1
SECTION II PROJECT IMPLEMENTATION	II-1
A. Outreach	II-1
B. Data Acquisition and Analyses	II-2
C. Needs Assessment	II-3
D. Enterprise Strengthening	II-4
E. Capital Development Support	II-4
SECTION III RESULTS	III-1
A. Poland	III-2
B. Slovak Republic	III-7
C. Czech Republic	III-11
D. Hungary	III-13
E. Related Activities	III-15
F. Summary	III-18
SECTION IV CONCLUSIONS, OBSERVATIONS, LESSONS LEARNED, AND RECOMMENDATIONS	IV-1
A. Expectations of Contractors	IV-1
B. Assistance to Local Entrepreneurs	IV-2
C. Duration of Assistance Efforts	IV-3
D. Current Needs of Environmental Entrepreneurs	IV-4
E. Restructuring the Environmental Business Sectors	IV-4
F. Environmental Solutions	IV-5
ANNEX A	
EkoJournal Article	A-1
Business Strategy Questionnaire	A-3
Miscellaneous Documentation	A-7
References	A-15

**ANNEX B**

**Eastern European Environmental Companies  
Evaluated During Needs Assessment Phase**

**B-1**

**U.S. Environmental Companies Receiving Assistance  
from the AID Resident Environmental Business Advisor**

**B-5**

---

## ACRONYMS

---

ABI	American Business & Private Sector Development Initiative
CDI	Capital Development Initiative
CDM	Camp, Dresser & McKee, International
DEC	Digital Equipment-Czechoslovakia
ECC	Enterprise Credit Corporation, Polish-American Enterprise Fund
E&ES	Electronic & Environmental Systems
EPA	Environmental Protection Agency
G&MI	Geraghty & Miller, International
GMS	GeoIndustria
IMC	International Marketing Consortium
INTIB	Industrial & Technological Information Bank
MERP	Ministry of Environment & Regional Policy (Hungary)
MOIT	Massachusetts Office of International Trade
MOSZNL	Ministry of Environment, Forestry & Natural Resources (Poland)
NASDA	National Association of State Development Agencies
NGO	Non-Government Organization (Environmental)
PLC	Programmable Logic Controllers
RBDO	Regional Business Development Officer (CDI)
SAIC	Science Application International Corporation
SEF	Slovak Enterprise Fund
SME	Slovak Ministry of Environment
UNIDO	United Nations Industrial Development Organization
USAID	U. S. Agency for International Development
VFD	Variable Frequency Drives
VSZ	East Slovakia Ironworks
WEC	World Environment Center

---

## EXECUTIVE SUMMARY

---

The United States Agency for International Development (USAID) supported a Resident Environmental Business Advisor to the private environmental sectors in Poland, the Czech and Slovak Republics, and Hungary. The advisor's goals were as follows:

- Support economic restructuring of the private sector.
- Improve trade and investment linkages between the United States and the region.
- Help develop private sector resources that contribute to environmental restoration and pollution abatement.
- Support the environmental component of USAID Capital Development Initiative (CDI).

The advisor focused his activities on enterprise building, capital formation, technology transfer, and short-term technical assistance. Using various forms of outreach, he contacted approximately 1,000 private enterprise in the region. He also conducted a needs assessment of over 40 regional enterprises and identified 15, to which he provided direct assistance.

The advisor's assistance included analyses of domestic market segments, development of marketing strategies, preparation of business plans and applications for credit, joint-venture development, product development engineering, and identification and support of CDI projects in the region.

Based upon his experience in the region, the advisor provided specific recommendations to USAID related to the types and duration of future assistance to environmental entrepreneurs, future needs of the private environmental sectors in the region, future efforts to restructure the private environmental sector, and environmental solutions to improve the quality of life in the region.

The advisor recommended that USAID consider providing assistance to countries of the region in the following areas:

- Education and training in strategic business analyses such as market principles and competitive dynamics.
- Transfer of information on environmental technologies from the West to the region's entrepreneurs.
- Support of activities that increase the flow of environmental deals into Enterprise Funds.
- Introduction of low-cost environmental technologies into the region.

---

## SECTION I INTRODUCTION

---

USAID supports the American Business and Private Sector Development Initiative (ABI) for Eastern Europe. The primary goals of the project are to facilitate the transfer of U.S. commercial expertise and the flow of U.S. capital to Eastern Europe, to stimulate the involvement of small and medium-size American firms in the market, and to assist with the economic restructuring and the emergence of viable domestic private sectors in the region.

USAID considers the development of an environmental products and services sector in Eastern Europe to be a key element in stimulating the expansion of the free market system and improving environmental conditions and the quality of life in the region. Previous USAID-funded analyses assessed the indigenous capabilities of countries in the region to develop viable environmental private sectors.<sup>1</sup> These analyses provided specific recommendations for improving the region's indigenous capabilities to address its environmental problems and to develop and supply least-cost solutions to these problems.

As part of the ABI program, USAID provided, for one year, a resident environmental business advisor to the private environmental business sectors in Poland, the Czech and Slovak Republics, and Hungary. The advisor had three primary goals. The first was to contribute to the process of economic restructuring in the environmental business sectors of Poland, Hungary, and the Czech and Slovak Republics. The second was to improve trade and investment linkages between the domestic and American environmental business communities. The third was to improve the quality of life in the emerging democracies of the region by helping to develop private sector resources that contribute to environmental restoration and pollution abatement.

Regarding the second goal, USAID anticipated implementation of its CDI programs during mid-1992. Thus, it intended that the advisor collaborate with the CDI regional business development officer (RBDO) for the environment sector. USAID also intended that the project provide both a base for the CDI environmental component and resources to support its Capital Development Initiative in the region.

To accomplish the primary project goals, the advisor focused on five areas:

- Enterprise strengthening, by providing technical, managerial, and entrepreneurial assistance to small domestic environmental enterprises.
- Market development, by evaluating environmental market opportunities in the region for domestic and American environmental firms.

---

<sup>1</sup> Separate analyses, entitled *Domestic Environmental Products and Services Sectors: An Assessment of the Current Status and Future Potential*, were prepared for three countries: Poland (Kenneth J. Macek and Gregory K. Schwartz, October 1991); Czechoslovakia (Kenneth J. Macek, January 1992); and Hungary (Kenneth J. Macek, January 1992). TMS Management Consulting, Inc., Boston, Massachusetts.

- **Technology transfer, by providing information to local firms about U.S. environmental technologies, and helping to create joint ventures, licensing agreements, and other forms of interaction between the public and private sectors in the region and the U.S. environmental business community.**
- **Short-term technical assistance, to help local product manufacturers identify simple, low-cost solutions to technical problems.**
- **Investment, by helping domestic firms access the Enterprise Funds and American firms access the CDI feasibility investment funds, and by supporting the CDI in the region.**

**This report describes the advisor's activities in Eastern Europe and presents the results in terms of specific achievements. It also provides recommendations for future USAID initiatives to support development of the environmental private sectors in Eastern Europe.**

---

## SECTION II

### PROJECT IMPLEMENTATION

---

The advisor established a base of operations in Warsaw and conducted a series of activities to accomplish the project goals. The activities included private sector outreach, information acquisition and analyses, enterprise needs assessment, enterprise strengthening, and development and support of capital development initiatives.

#### A. Outreach

Effective delivery of the planned assistance activities required that the advisor inform private sector environmental entrepreneurs and companies in the region of the assistance available. To create broad awareness about the project in the region, the advisor conducted a public relations campaign targeted to the four countries. The campaign provided (in each native language) information on the project, types of assistance available, and the method of reaching the advisor to request assistance.

In Poland, the advisor primarily used two vehicles to disseminate information. Through assistance from the U.S. Information Service at the embassy in Warsaw, he provided information on the project to the print media in Warsaw. This resulted in news articles about the project in several major Warsaw daily newspapers, which led to widespread coverage in Warsaw and surrounding areas, but limited coverage in other regions of Poland.

To identify and reach the environmental private companies located outside Warsaw, the advisor used other available sources of information. These sources included information previously developed for USAID, the United Nations Industrial Development Organization (UNIDO), the Polish Ministry of Environment, Natural Resources and Forestry (MOSZNL), catalogues from Polish environmental trade shows, and various lists of companies in the Polish private environmental sector. Using these sources, the advisor identified more than 600 private environmental firms in Poland.

A direct mailing to each company described in detail the project, types of assistance available from the resident environmental business advisor, and provided information on how the companies could request assistance.

In the Czech and Slovak Republics, the advisor identified a vehicle for effective and widespread penetration of the environmental community. He wrote a brief article containing information similar to that described above for the direct mail effort in Poland. The monthly publication, *EkoJournal*, published this article in English and Czech. A copy of the article is included in Annex A.

*EkoJournal's* monthly distribution is more than 4,000, of which 1,100 are subscribers, and the balance is sold directly to the public. Of the subscribers, 33 percent are private companies; 21 percent, state-owned enterprises; 18 percent, public institutions; 13 percent, district and local governments; and 15 percent, individuals.

Through feedback from this publication, information from its publishers, and information from a variety of other sources in the Czech and Slovak Republics (e.g. the Ministry of Environment of the Czech Republic), the advisor was able to identify more than 265 private environmental companies. Of these, 220 are in the Czech Republic and approximately 45 in the Slovak Republic.

Information on the private companies comprising the emerging environmental sector in Hungary is not readily available or easily accessible. During his outreach program, the advisor contacted the Regional Environmental Center, the Ministry of Environment and Regional Policy (MERP), the Hungarian NGO community, The Green (political) Party, and various private sources of information. Only MERP and a private consulting firm, ProPlusz (Budapest), provided significant data on the companies comprising the private environmental sector in Hungary.

Using the resources of ProPlusz, the advisor provided information (in Hungarian) directly to approximately 125 environmental firms. This information described the project, the types of assistance available, and how to contact the advisor to request assistance.

A representative distribution, by country, of the private environmental companies identified by the advisor in Poland, Hungary, and the Czech and Slovak Republics is shown below.

Poland	60.6%
Czech Republic	22.2%
Hungary	12.6%
Slovak Republic	4.5%

## **B. Data Acquisition and Analyses**

As a result of the outreach activities conducted over a period of three to four months, the advisor received written or verbal request for assistance from more than 120 enterprises in the region. In response to each inquiry, the advisor requested specific information regarding the company, their business activities, objectives, and the type of assistance requested. The advisor used this information to identify private environmental companies to which he might provide substantive assistance within the time and resources available to him.

During the outreach program, the advisor tried to be clear about the types of financial assistance available through the project. Despite his efforts, many inquiries sought project financing in amounts that were usually beyond the scope of the feasibility funds available through the CDI initiative. The interest in potential assistance often disappeared after the advisor indicated that such financial assistance was not available through this project. Technical information was one of the most often requested forms of assistance. Such requests usually involved technical and performance information about state-of-the-art environmental technologies, information about suppliers of technologies, and the relative costs of available alternative technologies.

A significant number of environmental firms did request the types of assistance available under the project. The advisor met, often several times, with the management of firms making such requests. The purpose of these meetings was to evaluate the needs of each company so as to coordinate them with the project resources. The process served to identify those firms that could most benefit from the types of assistance provided by the advisor.

### C. Needs Assessment

The advisor conducted direct discussions with the management of 40 domestic environmental firms in the region to assess the assistance needs of each firm. He evaluated the stage of the company's business development, its market focus, the current and potential market demand for its products or services, its technical and management resources and competitive advantages. His objective was to identify "viable" environmental businesses presently faced with technical, management, or financial barriers, that might be overcome through the advisor's assistance or other project resources. The distribution by country of the firms evaluated is as follows:

Poland	22
Czech Republic	8
Slovak Republic	7
Hungary	6

The advisor identified 15 firms and agreed to provide them with assistance in the areas listed below. The number of firms assisted appears in parentheses after each category, with overlap occurring in the case of firms that received assistance in more than one area. A list of companies evaluated during the needs assessment phase of the project is presented in Annex B.

- Conducting domestic market analyses (2)
- Developing marketing strategies and plans (3)
- Preparing business plans (2)
- Preparing applications to the Enterprise Funds for credits (3)
- Identifying potential joint-venture partners (4)
- Assisting in the identification and award of specific business contracts (3)
- Providing short-term technical assistance to enhance product development (3)
- Developing/supporting CDI projects for financing feasibility studies and projects (4)

Many U.S. environmental companies also requested information on market opportunities in the domestic environmental sectors. The advisor met with and/or provided information to representatives of more than 40 U.S. companies. Information provided by the advisor usually related to current or future market opportunities in, technology transfer to and from, and potential strategic partners in the region. A complete list of U.S. environmental companies to which the advisor provided information or assistance is found in Annex B.

## **D. Enterprise Strengthening**

The advisor designed the forms of his assistance to strengthen the ability of private environmental firms to compete in their marketplace. He helped the management of domestic firms develop their entrepreneurial skills and identify emerging market niches. He advised managers how to recognize and establish proprietary competitive advantages. He helped firms to market their services to private and public sector clients. He also assisted firms to identify potential U.S. suppliers and strategic partners.

Finally, he assisted domestic environmental firms in accessing investment capital available from the SEED-funded, country-specific Enterprise Funds. To facilitate this process, the advisor developed a set of questions that were translated from English into the respective native language (see Annex A). The answers, provided by the management of the firms receiving assistance, enabled the advisor to understand and describe their business, markets, competitive advantages, and strategy. In addition, he participated in training activities designed to improve the technical and management skills of domestic environmental entrepreneurs in the region. He also assisted both public and private sector efforts to introduce low-cost environmental technologies to the region.

In several instances, the advisor identified technological barriers impeding the development of local environmental enterprises. Utilizing project resources, the advisor supported short-term technical assistance to three Polish product manufacturers. This assistance produced several alternative recommendations regarding least-cost solutions to overcome the technology barriers faced by the companies.<sup>2</sup>

## **E. Capital Development Support**

During the last half of the advisor's assignment in the region, his efforts supported the CDI environmental component. Major national divisions were being proposed in the region during this time. These proposed changes suggested a reordering of the country focus for assistance and CDI support. Thus, the advisor focused (albeit not exclusively) his assistance activities and support of the CDI in the Slovak Republic.

These efforts included identifying potential projects for investment, negotiating with local government agencies, soliciting the participation of equity investors and managing partners (both domestic and foreign) and assisting domestic companies in preparing descriptions (Prospectus) of their projects to present to potential investors.

---

<sup>2</sup> *Technology Review, Assessment and Recommendations for Polish Environmental Product Manufacturers*. A Report to RCG/Hagler Bailly Inc., Arlington, Virginia. Ron Tolmei, Ph.D., Innovation, Walnut Creek, California, February 1993.

---

### SECTION III RESULTS

---

The advisor distributed his effort in the region in the following proportions: Poland (40 percent), the Slovak Republic (25 percent), the Czech Republic (15 percent) and Hungary (10 percent). The remaining effort was administrative.

The specific activities and work products described below do not necessarily reflect the regional distribution of the advisor's effort. Discrepancies result from the relative effectiveness of the advisor in the various countries. Language barriers, institutional capacities, distance from the operations base, and specific types of projects and activities undertaken in each country all affected the relative effectiveness of the advisor. It is not possible to measure the ultimate success of the project in the region at this time. The improved competitive position of a company in emerging markets must be measured over a period of several years. Development of foreign investment projects in the region is virtually impossible in a one-year timeframe.

For purposes of this report, success may best be measured in terms of the number of:

- Domestic and U.S. environmental companies seriously negotiating joint business opportunities in the region.
- Applications for financing submitted to investment institutions on behalf of domestic firms.
- Viable CDI investment opportunities that the advisor initially identified and supported in the region.
- Number of U.S. companies committed to providing low-cost solutions to the region's environmental problems.
- Extent to which the advisor's activities in the region have identified and addressed the most significant needs of the domestic environmental business sectors.

During 1993, the advisor's performance can be measured in terms of the number of joint ventures and licensing agreements between domestic environmental enterprises and U.S. companies to which he provided assistance. The amount of credits and equity investment ultimately provided to domestic environmental enterprises for which the advisor has prepared a prospectus should also indicate his performance. Technical innovations incorporated into domestic products as a result of the short-term technical assistance provided under the project also will serve to measure project success. Finally, the number and quality of proposals for feasibility funding under CDI will indicate the advisor's effectiveness during the project.

In later years, the ultimate success of the project will be measured in terms of the contribution of private domestic and U.S. environmental enterprises assisted by the advisor to restoring and preserving the region's environment and its residents' quality of life.

## **A. Poland**

The advisor provided enterprise-strengthening assistance to four private firms in Poland: ProEko (Warsaw), ELCO (Warsaw), ASKOM (Poznan) and PEFO (Wroclaw). The project supported short-term technical assistance to three Polish producers of environmental products (ELCO, ASKOM, PEFO). The advisor also recommended production of biobriquettes from lumber industry wastes for CDI evaluation, and provided direct support to one such project, WIMEX (Bydgoszcz). In addition, he proposed one potential CDI project, Metanel (Warsaw), to the Energy Sector RBDO (see Annex A).

### **A1. ProEko Ltd.**

ProEko Ltd. (Warsaw) was established in 1992 as a private Polish company to provide environmental management and consulting engineering services to the emerging municipal (e.g. water/wastewater treatment) market. The managing director requested help from the advisor to develop a business strategy for this new private company. During consultations, the advisor became aware of a lack of business management experience and unfamiliarity with both Western technologies and project and financial information management systems. ProEko's management and the advisor agreed that the company might address these resource deficiencies through a strategic alliance with a credible international U.S. environmental consulting firm.

The benefits of an alliance for the Western partner would be the link to a credible and qualified firm familiar with local customers, market conditions and the cultural nuances of doing business in Poland. ProEko could provide an entree into a newly emerging and potentially large market segment in Poland, as well as future entree to markets in other emerging democracies in Central and Eastern Europe. The alliance also could provide the Western partner with a pool of inexpensive technical expertise with which they could address business opportunities in the environmental sector of western Europe.

To attract potential western (e.g. U.S.) strategic partners, the advisor prepared for ProEko, in English, a strategic business plan in September 1992.<sup>3</sup> The plan described the market opportunities, ProEko's competitive advantages versus domestic and foreign competitors, and its strategy for leveraging those advantages into a significant market share.

After reviewing this strategic plan, the American firm, Science Applications International Corporation (SAIC), began negotiations with ProEko on a strategic alliance. As the negotiations proceeded, SAIC grew more interested but had reservations about ProEko's

---

<sup>3</sup> Strategic Business Plan. A Plan prepared for ProEko, Ltd., Warsaw, Poland. Kenneth J. Macek, PRIDE, Washington, D.C. August 1992.

market assumptions. Specifically, SAIC requested independent confirmation of the size and dynamics of the emerging market for municipal environmental services.

ProEko requested the advisor's assistance in developing a market analysis of the size, competitive dynamics, and customer decision criteria for its market. The advisor conducted a market survey and prepared a market assessment in December 1992 addressing issues of concern to the potential American partner.<sup>4</sup>

Based on information contained in this market assessment, ProEko and SAIC held further substantive negotiations in January 1993. ProEko and SAIC signed a definitive agreement, describing their business relationship, in April 1993.

## **A2. ELCO Sp.zo.o.**

ELCO (Warsaw) is a small private producer of simple, low-cost, water filter devices for removing iron and manganese from groundwater wells. Their product is based on a license from Warsaw Technical University. It is rapidly gaining share in the Polish market as customers learn of its performance and price advantages, and as ELCO's reputation and presence in the domestic market grows.

For example, the Ministry of Environment installed the largest ELCO system yet produced at its Warsaw headquarters. This system also supplies water to the adjacent school. At the recent Poznan Ecological Fair (POLEKO), the National Fund for the Environment and the EcoBank gave ELCO's water filter one of five "Super-Eko" awards. More than 450 Polish exhibitors competed for these five awards.

A desire to satisfy increasing demand for its products and improve quality control, prompted ELCO to request assistance from the advisor. He helped ELCO prepare a prospectus and application for a \$50,000 credit.<sup>5</sup> The company requested the funds to expand production and reduce reliance on outside suppliers for component parts. The materials were submitted to the Enterprise Credit Corporation (ECC), in December 1992. The ECC is reviewing this application.

In addition, since the ECC co-finances all credits with local banks on a 50-50 basis, the advisor recommended that ELCO also submit their application to Powszechny Bank Kredytowy S.A. (Warsaw), the ECC's local partner. ELCO has an ongoing business relationship with the bank and has received credits from it at commercial rates in the past. ELCO submitted an application in March 1993.

---

<sup>4</sup> *Market Assessment: The Municipal Environmental Consulting & Engineering Services Market in Poland*. A report prepared for ProEko, Ltd., Warsaw, Poland. Kenneth J. Macek, PRIDE, Washington, D.C. January 1993.

<sup>5</sup> Prospectus and application submitted to the Enterprise Credit Corporation, Polish-American Enterprise Fund, Warsaw, Poland on behalf of ELCO Sp.zo.o., Warsaw, Poland. Kenneth J. Macek, PRIDE, Washington, D.C. December 1992.

To increase the probability of successfully securing financial assistance for ELCO, the advisor also submitted the prospectus and application for financing to Caresbac Polska, a Polish venture capital fund, and to the Center for Emerging Technology (Warsaw). He met with both organizations to discuss ELCO. The former is a potential source of equity funding, and has expressed interest in ELCO as an investment opportunity. The latter helps Polish entrepreneurs secure financing for business projects involving technology transfer from academia to the private sector. It has given ELCO a verbal commitment for equity funding provided ELCO reconciles its balance sheet to conform with conventional Western accounting principles.

In addition, ELCO requested short-term technical assistance. It required a simple, low-cost method of automating filter cleaning and regulating water flow (independent of water pressure) during backwashing of the filters. The advisor's project provided support for Ron Tolmei, of Innovation in Walnut Creek, California, to visit ELCO. Dr. Tolmei is an engineer and an expert on product engineering and design.

Dr. Tolmei discussed the problem with the technical staff at ELCO and prepared an engineering report that recommends a simple, low-cost solution (including a preliminary design) to ELCO's technical problem.<sup>6</sup> Dr. Tolmei recommended solving both the problem of automatic control of filter cleaning and control of backwash flow using "off the shelf" inexpensive irrigation products readily available from suppliers in western Europe.

### **A3. ASKOM Sp.zo.o.**

ASKOM (Poznan) is a small company, organized in March 1991, to produce components (compressors and blowers) used in municipal and industrial wastewater treatment systems. In two years of operation, ASKOM became the leader in their domestic market (30 percent share). It competes with domestic suppliers (on the basis of performance and reliability) and with foreign suppliers (on the basis of price and service).

ASKOM requested that the advisor prepare a prospectus and application for credit to the ECC. The company requested \$150,000 to increase production capacity of its existing product line and develop new products to better serve its present customer base. The advisor prepared the prospectus and application in January 1993.<sup>7</sup> The ECC is reviewing it. In addition, as the ECC co-finances all credits with local banks on a 50-50 basis, ASKOM also submitted the application to Wielkopolsky Bank Kredytowy S.A. (Poznan), which is the ECC's local partner in Poznan.

---

<sup>6</sup> *Technology Review, Assessment and Recommendations for Water Filtration Systems* A Report to ELCO Sp.zo.o., Warsaw, Poland. Ron Tolmei, Ph.D., Innovation, Walnut Creek, California. February 1993.

<sup>7</sup> Prospectus and Application submitted to the Enterprise Credit Corporation, Polish-American Enterprise Fund, Warsaw, Poland on behalf of ELCO Sp.zo.o., Poznan, Poland. Kenneth J. Macek, PRIDE, Washington, D.C. January 1993.

The advisor also submitted the ASKOM prospectus to Caresbac Polska. He met with Dr. Karol Lipski to discuss a potential investment in ASKOM. Caresbac Polska is discussing, with ASKOM, a possible equity investment.

ASKOM also requested short-term technical assistance. Their current system designs have multiple motors that operate in combination to provide discrete response to continuously variable demand. ASKOM requested technical assistance to develop a simple low-cost solution to easily change the control system configuration and provide a way to dynamically control and regulate the speed of blowers and compressors.

The project supported Dr. Tolmei's visit to ASKOM to discuss the electronic control issue with the company's technical staff. Dr. Tolmei recommended a simple, low-cost solution to sensing demand and controlling output of individual electric motors in ASKOM's blower systems.<sup>8</sup> He concluded that ASKOM has resources to develop its own speed and control systems. This capacity is essential as many of their systems are custom-designed for specific applications.

Dr. Tolmei suggested that ASKOM incorporate variable frequency drives (VFD), available in Poland, to control speed, and programmable logic controllers (PLC), available from Germany, to control system configuration and operation. He also provided a general working design using the "one size fits all" modular design concept. That is, using one standard class of VFDs and PLCs, ASKOM can reconfigure the speed and system controls for each version or model of its products.

#### **A4. PEFO Sp.zo.o.**

PEFO (Wroclaw) is a small company formed in 1990 to provide both portable and stationary, low-volume, high performance electrostatic air filtration systems to industrial workshops. The advisor believes the company is the most focused and perhaps best managed domestic environmental firm with which he worked in the region. As one American competitor (Joy Manufacturing) reported, "PEFO is wreaking havoc in our Eastern European marketplace, and we don't know whether to view them as our principal competitor, a strategic partner, or a prime acquisition candidate."

In June 1992, PEFO requested the advisor's assistance to prepare a prospectus and application to the ECC. PEFO sought a credit of \$200,000, to increase its production capacity to meet rapidly increasing demand for its products. The advisor worked for months with PEFO developing information for the prospectus. During that time, the success of the company resulted in increased cash flow and less need for outside financing. Initially the advisor and PEFO's management decided to reduce the amount of credit requested. Finally, in January 1993, the advisor and the management decided that PEFO could fund its

---

<sup>8</sup> *Technology Review, Assessment and Recommendations for Control of Compressor and Blower Systems. A Report to ASKOM Sp.zo.o., Poznan, Poland. Ron Tolmei, Ph.D., Innovation, Walnut Creek, California, February 1993.*

expansion plans through internal cash flow. At PEFO's request, the advisor terminated his efforts on behalf of PEFO.

PEFO requested technical assistance to provide a visual means of determining filter status and a means of annunciating system failures that affect performance. This capability is important to PEFO's customers as it indicates when they must shut off the systems and clean the filters. The advisor also arranged for Dr. Tolmei to visit PEFO. He discussed the problem with PEFO's technical staff. Following his visit to PEFO, Dr. Tolmei prepared an engineering report (including preliminary design) that recommended a simple, low-cost solution to sensing filter efficiency and annunciating the information for the customer.<sup>9</sup>

#### **A5. WIMEX Sp.zo.o.**

In July 1992, the advisor suggested to the CDI-Environmental RBDO that the production of biobriquettes in Poland had economic potential and resulted in significant environmental benefits. WIMEX is a company in Bydgoszcz that proposes to construct a large-scale facility to produce biobriquettes from waste products of the wood processing industry.

In November 1992, the advisor met with members of a CDI mission to evaluate the technical, logistical, and economic aspects of biobriquette production in Poland. The conclusion from these discussions was that economically viable projects for producing biobriquettes existed.

In December 1992, the CDI Environmental RBDO requested that the advisor prepare a business plan for WIMEX's proposed production facility. The project requires investment of approximately \$US 5-10 million (depending on whether one or two production lines are installed). The advisor met on several occasions with WIMEX representatives to develop an understanding of their business. He then developed a business plan describing the investment opportunity proposed by WIMEX.<sup>10</sup> The CDI team will use this plan to attract potential Western investors to this project. The prospectus was provided to the CDI-RBDO in April 1993.

#### **A6. Metanel SA**

The first Polish company to request assistance from the advisor, in April 1992, was Metanel (Warsaw). Metanel is a company interested in recovering and using methane gas from coal deposits and other sources. The advisor met with the Metanel management to discuss their interests. He concluded that the company's interests were more energy related

---

<sup>9</sup> *Technology Review, Assessment and Recommendations for Electrostatic Air Filtering Systems* A report to PEFO, Ltd., Wroclaw, Poland. Ron Tolmei, Ph.D., Innovation, Walnut Creek, California. February 1993.

<sup>10</sup> Prospectus and Business Plan submitted to Sanders International on behalf of WIMEX Sp.zo.o., Bydgoszcz, Poland. Kenneth J. Macek, PRIDE, Washington, D.C. March 1993.

than environmental, and thus did not fall within the scope of this project. However, the advisor provided Metanel with an extensive list of U.S. contacts, in both the public and private sector, that were active in methane gas recovery.

When the CDI team members arrived in Poland, the advisor met with the CDI-Energy RBDO to brief him on relevant companies and opportunities in the energy sector, with which the advisor had become familiar. He provided information on several Polish companies (including Metanel) and several projects in the energy sector.

Metanel subsequently entered into a joint-venture agreement with a U.S. partner (Delphian), that required an investment in Metanel by Delphian. As of January 1993, Delphian has yet to live up to its financial obligations under the agreement. If Delphian should breach the terms of its agreement with Metanel, the CDI Energy team is prepared to bring Metanel together with Conoco (U.S.) to explore jointly developing methane in Poland (see Annex A).

## **B. Slovak Republic**

The advisor provided enterprise strengthening assistance to two private environmental enterprises, In. Anton Vujcik and APS-ECOS, both located in Kosice. The advisor assisted SENSOR (Bratislava) in identifying potential U.S. partners and negotiating joint-venture agreements. In addition, he identified and developed two potential CDI projects.

The first involves the participation of the East Slovakia Ironworks (VSZ) in Kosice, the Slovak Enterprise Fund (SEF) in Bratislava, and the American environmental and consulting engineering firm, Camp, Dresser & McKee International (CDM), based in Boston, MA. The second potential CDI project involves Digital Equipment Corporation, of Maynard, MA, its wholly owned subsidiary, Digital Equipment Czechoslovakia (DEC), and the Slovak Ministry of Environment (SME). The latter two are located in Bratislava.

### **B1. In. Anton Vujcik a. spol.**

In. Anton Vujcik manages a small firm (15-20 employees) in Kosice providing wastewater treatment consulting and engineering services. He requested assistance in acquiring information on Western wastewater treatment technologies. The advisor provided information on U.S. suppliers of such technologies, and informed him of the INTIB database and how to access it.

In. Vujcik also described his idea of providing, on a fee basis, information about Western environmental technologies to interested parties in Slovakia. The advisor recommended In. Vujcik's firm to the Energy and Environmental Information Office (UNIDO-Vienna) as a potential clearinghouse for their INTIB data in Slovakia.

### **B2. APS-ECOS s.r.o.**

The company provides environmental consulting services mainly to state-owned enterprises in Eastern Slovakia. Director Dr. Hoppan requested that the advisor help him identify competitive advantages for his company and a market niche where they could leverage those advantages. He also asked the advisor to assist in developing a company capabilities brochure as a marketing tool. The advisor suggested that APS-ECOS consider obtaining certification from the appropriate environmental authorities to perform environmental audits. The company succeeded in obtaining environmental audit certification. With the advisor's help, the company identified a market niche for its environmental audit services. The advisor suggested that, under Slovak law, state-owned enterprises undergoing privatization, or receiving direct foreign investment, required an environmental audit. He also suggested that APS-ECOS could readily identify such firms, providing a customer "hit" list. The company decided to focus its marketing efforts on this market niche. The advisor then helped the company prepare a brochure describing the company's activities, highlighting its status as one of the few firms "certified" to perform environmental audits in Slovakia.

### **B3. SENSOR Inc.**

SENSOR (Bratislava) is a small private environmental firm. The principals have developed a truly unique proprietary technology for identifying and locating small leaks in underground liners. The liners are designed to protect groundwater resources from solid and liquid waste contamination. SENSOR's technology measures the change in electrical potential between sets of fixed (permanent) sensors installed prior to installation of the liner.

This technology can verify the integrity of liners after installation for both the manufacturer of the liner and the customer. During the useful life of the liner (e.g. 20 years) the system can periodically monitor the continued integrity of liners. Periodic monitoring identifies both the existence and location of small leaks that can develop in the liner. This allows rapid repair of the liner and minimizes potential contamination of soil and groundwater resources.

The advisor recommended potential U.S. partners (including liner manufacturers) to SENSOR's management, and to the Entrepreneurship Center in Bratislava (which was representing SENSOR). As a result of subsequent negotiations, SENSOR initially entered into a joint venture, with a U.S. liner manufacturer's French subsidiary, to use its technology for new liner installations in France. The parties have reached an agreement in principle for SENSOR to grant a limited-term, exclusive, worldwide, royalty bearing license to its U.S. partner. The license will limit the application of SENSOR's technology solely to new liner installations. The parties expect to sign an agreement regarding this worldwide license within 30 days.

Subsequently, SENSOR developed a second generation "portable" version of its technology for monitoring liner integrity at existing (i.e. old) waste sites. Sensor's management asked the advisor to help the company identify a potential U.S. partner who could successfully bring SENSOR's technology to the U.S. (largest) market for monitoring the integrity of liner installations at existing sites.

After evaluating the competitive situation in the United States, the advisor suggested that SENSOR consider approaching the U.S. environmental firm, Geraghty & Miller International (G&MI). At SENSOR's request, the advisor held initial discussions with the G&MI president. He described SENSOR's technology and solicited an expression of interest. G&MI's response to these initial discussions was an expression of interest in exploring a relationship with SENSOR.

Direct discussions are now occurring between SENSOR and G&MI. G&MI requested an on-site evaluation of SENSOR's technology (either in Slovakia or France).

#### **B4. East Slovakia Ironworks (VSZ)**

At the request of USAID, the advisor assisted the East Slovakia Ironworks (VSZ). VSZ was restructuring the company and wanted to diversify into new business areas. It identified environmental consulting services as an area for potential diversification. These activities began in June 1992.

The advisor first evaluated VSZ's internal resources, internal requirements, and the environmental services market in the region. The advisor concluded that VSZ had insufficient internal technical skills to succeed in the environmental consulting services business.

However, he observed that VSZ did have a large internal requirement for analytical laboratory services. He suggested that VSZ explore establishing and operating an analytical chemistry laboratory to serve East Slovakia. The rationale for a new analytical chemistry facility is that VSZ will be the laboratory's first (and probably largest) customer. VSZ's analytical requirements represented the equivalent of \$350-400,000 in 1992. VSZ forecasts internal demand will grow as environmental regulation and enforcement increases. VSZ indicated that it could contribute land, perhaps an existing building, and a modest equity investment. The advisor estimated the project could cost approximately \$1 million and would require outside investors. In August 1992 the advisor approached the SEF about possibly participating in such a venture. The SEF director indicated participation would be contingent on the participation of a U.S. partner, who would be a credible manager of an analytical laboratory facility. Both the advisor and the SEF agreed the American partner also should contribute equity to the project.

In August 1992 the advisor solicited assistance of the CDI environmental team in identifying a potential partner and investor. In addition, the advisor approached several U.S. environmental companies regarding possible interest in the project. In response to the advisor's approach, the American environmental consulting and engineering firm CDM sent a letter to the advisor expressing its interest in the project (see Annex A).

The advisor, the SEF director, the manager of the CDI environmental team, and CDM have agreed that the next steps to bring this project to fruition are (a) direct discussions between SEF and VSZ on the nature of VSZ's "equity" contribution to the project, (b) direct discussions between VSZ, SEF, and CDM on the structure of the relationship between the

principals, (c) a market survey of the potential demand for analytical chemistry services in Eastern Slovakia, and (d) a preliminary feasibility design of the facility.

The SEF director has taken responsibility for arranging direct discussions between SEF and VSZ (April 1993). The advisor is responsible for arranging direct discussions between VSZ, SEF, and CDM (April, 1993). The SEF has indicated it would consider funding the required market survey (spring 1993). Assuming the results of the above activities are positive, CDM will apply to CDI for co-financing of the feasibility design project during the summer of 1993.

#### **B5. Digital Equipment Czechoslovakia, s.r.o.**

In Slovakia there are 10-12 environmental monitoring activities. Responsibility for them is divided between government ministries, several state research institutes, and includes some private sector involvement. The SME realizes that government access to the information and public participation in government decision making are essential to developing sound environmental policy. SME decided to develop a management information system to integrate the data from these diverse monitoring programs. The SME goals are to provide:

- Distributed access for government offices requiring the data or information regarding the data.
- Public sector access (e.g. NGOs) to information regarding the data. (The SME estimates that investment required to complete this project could be \$5-7 million.)

The ministry budgeted the equivalent of \$50,000 to begin a study of the feasibility of developing the system. The study should recommend a platform for the management information system. It also should propose alternative approaches to integrate the various types of environmental monitoring data, provide access to the data, and manage the environmental information resulting from the data. The cost estimate for the feasibility study is \$200,000.

In August 1992, the advisor received a request from Digital Equipment Czechoslovakia for assistance to conceptualize the structure of a feasibility study that would be acceptable and affordable to the Slovak Ministry of Environment. The U.S. parent company of DEC recently configured and developed a similar environmental information management system for the Republic of Germany. DEC demonstrated aspects of this system to SME officials and generated a high interest. The company has the experience required to respond SME's needs.

In September 1992 the advisor requested DEC to prepare a proposal, acceptable to the SME, for co-financing of the \$200,000 feasibility study. DEC proposes to contribute \$50,000 of computer hardware for the feasibility study.

The advisor also informed the CDI environmental team of the forthcoming proposal for cost sharing from Digital Equipment Corporation, the parent company of Digital

Equipment Czechoslovakia. The advisor requested an opinion on the eligibility of SME's contribution for cost sharing, and received an affirmative response to his inquiry.

A number of issues internal to DEC and others related to the procurement process in SME, delayed preparation of the proposal. Since November, the advisor has met monthly with both DEC and the SME attempting to resolve these issues and propose a feasibility study to CDI.

Apparently, the last issue to be resolved is for SME to "pre-qualify" DEC as the "preferred" supplier. DEC arranged for a delegation of SME officials to visit Germany (April 1993). They will evaluate an environmental management information system, developed and installed by Digital for the German environmental authorities, in Stuttgart.

DEC expects the visit to provide a basis for SME to select it as the "preferred" supplier. Upon its selection by the SME (probably in May 1993), DEC's U.S. parent company will submit a proposal to CDI for \$100,000 of cost sharing for the feasibility study.

### **C. Czech Republic**

The advisor facilitated the formation of strategic alliances between one Czech (GMS) firm and several U.S. partners. He also assisted two Czech firms (KZT and Eco-Geo) to develop business opportunities in the region. Finally, he assisted one Czech firm (E&ES) to focus its marketing activities, identify its potential clients, and develop a strategy for penetrating its market niche.

#### **C1. GeoIndustria (GMS)**

GeoIndustria (GMS) is a privatized state enterprise located in Prague. The company specializes in geological, geophysical, and hydrogeological services. It has extensive international experience, primarily serving the exploration industry. The advisor first visited the firm in September 1991. At that time, the firm was preparing for privatization and requested the advisor's assistance in identifying potential U.S. partners and/or investors to explore environmental services markets of mutual interest in the Czech Republic.

In May 1992, the advisor met with a representative of the U.S. company, International Marketing Consortium (IMC), in Poland. The firm was looking for a partner that could provide access to the environmental services market in the region. The advisor recommended that IMC contact GMS to discuss possible business relationships. These discussions led IMC to sign a five-year marketing agreement with GMS in October 1992. This agreement provides for GMS to market the services of IMC and other U.S. environmental companies (associated with IMC) in the Czech Republic.

As a result of their relationship with IMC, GMS has recently (January, 1993) negotiated another agreement with a U.S. environmental testing firm, Scientific Control, under which the two firms will collaborate in the Czech Republic conducting environmental audits and performing remediation at hazardous waste sites (see Annex A).

## **C2. KZT**

KZT is a small private environmental information management and consulting services company in Prague. In April 1992 it asked the advisor for assistance in marketing its capabilities and products in the Czech and Slovak Republics.

In November 1992, the advisor recommended that KZT provide a proposal to the Industrial and Technological Information Section, UN Industrial Development Organization-Vienna (UNIDO) to serve as a database management contractor. KZT would provide access to the energy and environmental component of UNIDO's Industrial and Technological Information Bank (INTIB) for interested parties in the Czech Republic.

In February 1993, UNIDO offered KZT the opportunity to serve as its partner to provide a mechanism for inquiries from individuals and entities in the Czech Republic to INTIB. KZT would translate, when necessary, inquiries into English, telecommunicate the inquiry to INTIB, and electronically receive the data output from INTIB. If necessary, KZT would translate the data output back into Czech. KZT will provide all services on a fee basis, with a portion of the fees going back to UNIDO. KZT and UNIDO are currently negotiating the terms of a formal agreement.

## **C3. Eco-Geo**

Eco-Geo, a small private environmental consulting firm in Prague, requested the advisor's assistance in June 1992 to identify potential U.S. suppliers of remediation services and technology. Eco-Geo intended to form a team to develop a proposal to the Czech Ministry of Defense. The proposal responds to a request to conduct environmental audits and remediation activities at a number of abandoned Soviet military bases in the Czech Republic.

With the diligent support of RCG-Hagler Bailly personnel in Washington, the advisor identified several U.S. environmental firms that expressed interest in the project. Several firms agreed to team with Eco-Geo to submit a proposal for the project in September 1992. Unfortunately, the subsequent political and economic events in the Czech and Slovak lands led to cancellation of the proposed procurement.

In December 1992, UNIDO asked the advisor to suggest a contractor to support their efforts in the Czech republic to organize an Industrial Development Conference for regional environmental companies. The advisor recommended Eco-Geo, and suggested to Eco-Geo that it submit a qualification statement to UNIDO. In January 1993, UNIDO selected a team of Eco-Geo/KZT to provide logistical support to UNIDO in the Czech and Slovak Republics.

#### **C4. Electronic & Environmental Systems (E&ES)**

Electronic & Environmental Systems (Brno) is a small private distributor of Western environmental monitoring equipment (air, water, radiometric). The management requested the advisor's assistance for help in focusing the business, and developing and implementing a marketing strategy to penetrate the environmental market in the Czech and Slovak Republics.

After consultations with E&ES, the advisor recommended that it shift its marketing emphasis from the economically depressed state enterprises (end users) and instead market directly to private companies providing environmental consulting services to end users. The strategy was to let the consulting companies find the customers for E&ES product applications. E&ES would focus on selling to the firms actually providing the measurement services.

The advisor provided E&ES a list (in Czech) with names of 200 environmental consulting companies (including names and telephone numbers). Each firm is a potential client for E&ES. The advisor helped E&ES develop a marketing strategy. The strategy included mailing product information directly to the targeted market segment, advertising in *EkoJournal*, and exhibiting the E&ES product line at Eastern Europe's largest environmental exhibition (EnviroBrno).

E&ES asked the advisor to identify potential suppliers of technology for monitoring hydrocarbon concentrations in water. The advisor contacted the U.S. firm, Quantix, which had previously requested the advisor's assistance in identifying potential distributors in the region. E&ES and Quantix are currently exploring a formal relationship.

E&ES reported an increase in customer inquiries and proposals offered to customers. It expects increased sales revenues as a result of implementing this strategy (see Annex A).

#### **D. Hungary**

The limited ability to identify and reach the private environmental sector in Hungary and the significant language barriers there limited the advisor's effectiveness and the activity in the country. The advisor prepared one investment proposal (HYDROCOR) and helped one Hungarian firm (PRO-PLUSZ) to procure business contracts within the region. He also referred one potential CDI project (Debrecen) to the Environmental RBDO.

##### **D1. HYDROCOR**

In August 1992, the advisor received a request for assistance from HYDROCOR in Budapest. HYDROCOR developed a proprietary technology for processing hazardous waste sludge from wet painting operations (e.g. automotive industry, appliance manufacturers, etc.) A recent independent study, indicated that there were more than 3 million tons of such wastes located in Hungary. In addition, industry still produces thousands of tons per year.

At present there is no acceptable method of treating such wastes and no acceptable secure disposal site in Hungary. The company asked the advisor to assist it commercialize its proprietary technology.

The HYDROCOR management explained that many industries, mostly still state-owned, require the capability offered by its technology. However, the economic condition of these industries precludes their purchasing the company's modular treatment systems (designed to process 400 tons per year).

The advisor suggested that HYDROCOR consider building a waste processing facility to serve Hungarian industry. Exploring this approach with potential customers, it was readily apparent that the customers would welcome the idea of gaining access to such a facility on a fee basis (\$/ton). Potential customers indicated that although they had no resources to purchase the technology, they could and would pay for the service.

During November and December 1992, the advisor helped HYDROCOR prepare a proposal to develop the project. The analyses indicated that the project investment would be approximately \$2 million. HYDROCOR is prepared to invest \$400,000 of its own funds. MERP has a program providing grants for up to 40 percent financing for environmental projects. HYDROCOR intends to apply to MERF for a grant of \$700,000 to construct the proposed facility.

To complete the proposed project financing, the advisor and HYDROCOR prepared an investment proposal for the Hungarian-American Enterprise Fund.<sup>11</sup> We proposed that the fund take a 50 percent equity position in the project. Discussions between the fund and HYDROCOR are ongoing. The fund has expressed preliminary interest in the proposal, contingent on HYDROCOR's ability to put the other parts of the financing in place (e.g. MERP) and resolve the fund's concern regarding the "exclusivity" portion of an existing agreement between HYDROCOR and its German partner regarding markets in Western Europe.

Also, the advisor attempted to provide the fund management with a credible and independent opinion of the magnitude of the waste problem and the need for the proposed solution. The advisor sent a copy of the proposal to the co-chairman of the Green Party and director of the Institute for Sustainable Development in Miskolc. The advisor requested he review and comment directly to the fund on the merits of the project. His response to the fund indicated unqualified support for the proposed project (see Annex A). The proposal is currently under review by the Hungarian-American Enterprise Fund.

During March 1993, the advisor accompanied HYDROCOR to a UNIDO Investment Conference in an attempt to identify potential Western investors with interest in HYDROCOR, the proposed waste treatment facility, or both.

---

<sup>11</sup> Investment proposal submitted to the Hungarian-American Enterprise Fund on behalf of HYDROCOR, Kft., Budapest, Hungary. Kenneth J. Macek, PRIDE, Washington, D.C. January 1993.

## **D2. PRO-PLUSZ**

PRO-PLUSZ is a small information management firm specializing in the environmental sector. As previously mentioned, they have supported the advisor's activities in Hungary. They also requested the advisor's assistance to expand their activities in the environmental information services arena.

In December 1992, the advisor suggested that PRO-PLUSZ submit a qualification statement to UNIDO. In January 1993, UNIDO selected PRO-PLUSZ to provide logistical support for the UNIDO environmental investment conference scheduled for Budapest in March 1993.

## **D3. City of Debrecen**

In November 1992, the U.S. Peace Corps advisor to the Mayor of Debrecen, requested the advisor's assistance. Debrecen is planning to install five air quality monitoring stations and has funds to purchase the first system in 1993. Debrecen has budgeted to purchase one additional system each year for the next four years.

The Peace Corps volunteer asked the advisor to identify U.S. suppliers that might provide the hardware and financing. The financing would be used to accelerate installation of the air quality monitoring systems. The advisor requested the CDI team's assistance in responding to this request.

Lear-Seigler, an American supplier of air quality monitoring systems was identified as a potential supplier of equipment for the Debrecen project. Sanders International is following up to explore how CDI can help the city accelerate installation of these systems.

## **E. Related Activities**

### **E1. Environmental Technology Information**

The most frequently requested assistance from environmental firms in the region's private sector was for information about the types and sources of technologies for specific environmental applications, the relative merits (e.g. cost effectiveness) of alternative technologies, and the availability of such information in the native language from which the request originated.

The volume of these requests far exceeded the advisor's resources under this project. Thus, the advisor endeavored to identify a source of the types of information sought by the region's environmental private firms. More important than the source of information (of which there are several), was a mechanism whereby the local private entrepreneurs could request and receive information in their native language.

While attending a conference on Environmental Contamination in Eastern Europe in October, the advisor learned of the UNIDO Industrial and INTIB located in Vienna. UNIDO

makes this database, which includes several U.S. environmental technology databases, e.g. Environmental Protection Agency (EPA), Department of Energy (DOE), available, on a fee basis, to entrepreneurs in the region. The key component of the information system is a "hub" located in each country. UNIDO has already established a "hub" and a pilot program in Hungary. It was looking for collaborators in Poland and in the Czech and Slovak Republics to serve as local hubs in those countries.

Upon learning of the program, the advisor wrote to over 700 private environmental companies in Poland and Hungary. He provided information in Polish and Hungarian on the INTIB program and how to access it. He also arranged for an article on the INTIB program to be published in Czech in the *EkoJournal*. The circulation of the *EkoJournal* in the Czech and Slovak Republics is more than 4,000.

In addition, the advisor helped KZT (Prague) negotiate with UNIDO to serve as the local hub for INTIB in the Czech Republic. He also has recommended a candidate to UNIDO to serve as a hub in the Slovak Republic, and is currently trying to identify a potential collaborator in Poland.

## **E2. Low-cost Environmental Technologies**

The advisor recognized the need for low-cost environmental technologies in the region. He informed several suppliers of low-cost U.S. environmental monitoring technologies about potential opportunities for their technologies in the region. These include Quantix, Millipore, Sippican, Springborn Laboratories, Ensys, and Hydrolab. The advisor also recognized that no institutional capability exists in any of the countries in the region to certify or accredit innovative technologies (e.g. analytical). He explored how companies might procure certification in each country, and informed the potential U.S. suppliers how best to proceed.

The advisor informed the U.S. suppliers of monitoring technologies that no infrastructure is responsible for formal certification of alternative monitoring methodologies in any of the countries. Usually each country has a technical "center of excellence." National environmental officials generally agreed that a recommendation from such a center on the adequacy and comparability of their particular alternative technology would be equivalent to "certification" in the respective country.

The advisor cooperated with the MERP in Hungary to match it with U.S. suppliers of innovative, low-cost water quality monitoring technologies. MERP plans to conduct a pilot water quality monitoring program, and has expressed interest in including and evaluating innovative low-cost technologies.

Four U.S. companies have offered to provide technology and systems at no cost. MERP will evaluate the effectiveness of these technologies in the pilot program, versus conventional water monitoring technologies. All the aforementioned U.S. companies, except ENSYS, have responded positively to MERP with offers of technology and/or services.

### **E3. Environmental Audit Training**

The environmental service currently in greatest demand in the region is environmental auditing. However, upon arriving in the region, the advisor recognized that the domestic private sector's capabilities in environmental auditing were limited.

The advisor recommended that the Massachusetts Office of International Trade (MOIT) apply to the National Association of State Development Agencies (NASDA) for a grant (through an USAID grant to NASDA). MOIT proposed to support environmental audit training for three Polish nationals in the United States.

NASDA approved the MOIT application and MOIT asked the advisor's assistance in identifying suitable candidates from Poland to train in the United States. In March 1992 the advisor interviewed candidates from Poland. Criteria for consideration were completion of a certified environmental audit training program in Eastern Europe, recommendations from local environmental authorities, and the ability to understand and converse in English.

The advisor recommended three candidates to MOIT. One was from a wojewoid (regional) environmental inspectorate, the second from the environmental department of the largest state-owned steelworks (HUTA) in Katowice, and the third from the private sector. The persons recommended by the advisor spent four weeks in September and October 1992 gaining hands-on experience in U.S. environmental consulting companies.

### **E4. Private Sector Characterization (Poland)**

When the advisor arrived in Poland there was no single source of information on firms comprising the environmental private sector. During the project, the advisor identified and catalogued more than 600 environmental private enterprises in Poland. He provided this catalogue of firms, upon request, to a variety of government agencies in Poland. The catalogue is currently in use by USAID-Warsaw, FCS-Warsaw, MOSZNL, and the Polish EcoBank.

**F. Summary**

A summary of the advisor's activities and accomplishments during his year as resident environmental business advisor for the region's private environmental sectors is presented in Table 1 below:

**Table 1  
Activities and Accomplishments**

<b>CLIENT</b>	<b>OBJECTIVE</b>	<b>PRODUCT/ACTIVITY</b>	<b>STATUS/RESULT</b>
ProEko	Joint Venture	Business Plan	Negotiations Initiated
ProEko	Joint Venture	Market Analysis	Draft Agreement
ELCO	Financing	Prospectus	Application Filed
ELCO	Technology	Engineering Report	Implementation
ASKOM	Financing	Prospectus	Application Filed
ASKOM	Technology	Engineering Report	Implementation
WIMEX	Financing	Business Plan	CDI Support
PEFO	Technology	Engineering Report	Evaluation
SENSOR	Joint Venture	Strategy/Partners	Draft Agreement
VSZ	Enterprise	Financing/Partners	CDI Initiative
DEC	Infrastructure	Financing/Partner	CDI Initiative
GeoIndustria	Joint Venture	Partner	Agreement
E&ES	Market Focus	Niche/Strategy	Implementation
HYDROCOR	Financing	Prospectus	Application Filed
KZT	Tech. Database	Partner	Negotiations Initiated
POLAND	Audit Training	Partner (MOIT)	Training Completed
POLAND	Sector Definition	Data Compilation	600 Firms Identified

---

**SECTION IV**  
**CONCLUSIONS, OBSERVATIONS,**  
**LESSONS LEARNED, AND RECOMMENDATIONS**

---

During his 13 months in Eastern Europe, the advisor made observations and learned numerous valuable lessons. Based on these experiences, he includes recommendations to USAID regarding future assistance in the region in general, and to the environmental sector specifically relating to these six general areas:

- Expectations of future contractors operating in the region
- Forms of assistance to local entrepreneurs
- Duration of specific types of assistance efforts
- Current needs of the environmental private sectors
- Efforts to restructure the environmental sectors
- Environmental solutions to improve the quality of life

**A. Expectations of Contractors**

**A1. Observation**

The infrastructure to support domestic and international business activities generally is primitive compared to Western standards. Telecommunications systems, especially between sites within the region, are frustrating at best, and demoralizing at worst. Database and information management systems are virtually nonexistent. Banking is archaic and unduly time-consuming. The initiative and work ethic of the work force often may be characterized as indifferent. Language barriers, especially in Hungary where few people speak English, often make progress impossible.

**A2. Lesson**

These factors contribute to reduce the effectiveness and productivity of contractor assistance efforts in the region. The advisor estimates that his personal productivity during his stay in the region was less than 50 percent of that possible under Western business conditions. He believes it would have been less had he not been conversant in Polish.

In his opinion, significant improvements in productivity among those providing Western assistance are unlikely in the near term. This is especially relevant for resident advisors who have to deal with these cultural and infrastructure problems on a daily basis.

**A3. Recommendation**

USAID and its contractors should base their expectations of future assistance efforts on realistic estimates of productivity per man year "on the ground." Familiarity with either the primary, or a secondary (e.g. German, Russian) language common to the region should be a requirement for all resident advisors.

## **B. Assistance to Local Entrepreneurs**

### **B1. Observation**

Local entrepreneurs are generally naive about "business." Individuals who spent the past four decades in a centrally planned economy, obviously have little, if any, understanding about market principles (e.g. driving forces, end uses, competitive dynamics etc.). It is often impossible for them to answer questions about markets, competitors, and competitive advantages and disadvantages. In most cases, the aspiring entrepreneur has never really thought about either these questions or their answers.

In many instances, the problem is one of "lexicon." For example, consider the simple term "customer." On more than one occasion, the advisor asked a manager, "Who is your customer?" By this he, of course, meant the person(s) willing or required to purchase the vendor's product or service. In response, the manager often described who he thought "ought" to buy his product or service. The response to the question usually gave no consideration to driving forces influencing the prospective customer(s).

Often, the problem is lack of understanding about competition and markets. The need for differentiation among competitors is not recognized or appreciated. Entrepreneurs generally believe, "If I have one for sale, the customer will obviously buy it from me, because I'm selling it."

These problems often result in tedious and arduous exercises in educating the local entrepreneur. Such encounters, however, are necessary to develop a basis for understanding and discussion between the advisor and entrepreneurs about business and market principles and dynamics.

### **B2. Lesson**

Entrepreneurs aspiring to develop private sector initiatives lack understanding about market economies and the principles of competition. In some ways, USAID may be putting the "cart before the horse" by supporting private sector investment initiatives. In the advisor's opinion, the most valuable form of assistance, at this stage of economic restructuring in the region, is education and training. He also believes that a critical "minimum level" of education or training is necessary for these entrepreneurs to succeed in an emerging market economy.

### **B3. Recommendation**

In the advisor's opinion, it is important to teach the new entrepreneurs of the region the fundamental principles of business (market analyses, niches, competitive analyses, strategy development, investment analyses, cash flow, etc.). Based on his own experience, he concludes that intensive, interactive (day-to-day) training of businessmen is the most effective form of education.

Programs such as the MBA Enterprise Corps, the International Executive Service Corps, the Environmental Training Project, and resident business advisors may have the greatest impact. This does not imply that short-term training (e.g. teaching how to prepare business plans) is not useful. However, it may be another case of "putting the cart before the horse." One cannot expect entrepreneurs to develop or understand a business plan before they have a real understanding of the principles and terminology of the elements of such a plan.

## **C. Duration of Assistance Efforts**

### **C1. Observation**

The advisor has personally participated in many assistance efforts of various durations. These have included one-day technical assistance efforts, one-week training activities, one- to two-month enterprise strengthening efforts, and one-year sectoral advisory activities. He has observed the results (effectiveness) of these various forms (duration) of assistance over the longer term.

In many instances the assistance activities create a short-term euphoria among participants. However, the activities also sometimes create unrealistic expectations among the recipients. A period of disappointment and frustration often follows when these expectations are not realized.

### **C2. Lesson**

The duration and form of assistance provided to the private sectors in the region must be tailored to the needs of the recipients and the goals of the donor agency. Some needs and goals can be adequately addressed in the short term. For example, short-term technical assistance, provided by one engineer to another, can be very effective since the technical terms and engineering principles are fundamental to the science. Under terms of a common lexicon (even when the language differs) and engineering principles, one can readily convey solutions to technical problems.

Conversely, in situations where the lexicon and fundamental principles are not common to both provider and recipient of assistance, the interaction, including education, must last longer. Finally, where fundamental change is the goal of assistance, the duration of assistance must be virtually constant over a significant period of time.

### **C3. Recommendation**

USAID should continue to provide various forms (duration) of assistance. However, it may want to consider that various requirements for assistance (e.g. technical) are more amenable to shorter durations than other assistance (e.g. education and training). Finally, where the goal of donor assistance is fundamental structural change, the advisor recommends that long-term resident assistance is the most effective mechanism.

## **D. Current Needs of Environmental Entrepreneurs**

### **D1. Observation**

The form of assistance most frequently requested by environmental entrepreneurs was information about new environmental technologies. Unfortunately, information is not easily accessible to them. In those few instances where it is available, it is usually in a foreign language (e.g. sales brochure). Another issue concerns the providers of such information. If the supplier of the technology provides the information, objectivity is lacking. The local environmental entrepreneur often learns of only one available technology. This may or may not be the most appropriate, efficient, cost effective, etc.

### **D2. Lesson**

In many cases, given the appropriate information in a familiar language, the environmental entrepreneur can identify the technical advantages and disadvantages of technologies. With information about the various sources of such technologies, and the ability to communicate (in the same language) to those sources, most entrepreneurs would negotiate their own strategic relationships. With information about the relative cost effectiveness of alternative environmental technologies, the local entrepreneurs could identify those suppliers with whom they should negotiate such relationships.

### **D3. Recommendation**

The most valuable form of assistance that donors could provide to the emerging environmental private sectors is a mechanism to access technical information in their native tongue. USAID should consider supporting the development of mechanisms for environmental entrepreneurs to access available, in their native tongues, information about environmental technologies. Such programs could be modeled after the WEC program recently developed for Mexico, or the INTIB program managed by UNIDO-Vienna. The latter institution focuses on the region, and already has several pilot programs established (e.g. Hungary, the Czech Republic). The advisor strongly recommends that USAID consider supporting the INTIB program, thereby addressing one of the most pressing needs of environmental entrepreneurs in the region.

## **E. Restructuring the Environmental Business Sectors**

### **E1. Observation**

Except for some of USAID's recent initiatives (e.g. CDI), most financial and technical donor assistance focuses on the public sector. It is generally acknowledged, however, that economic restructuring must ultimately be accomplished through the private sector. In recognition of this fact, the SEED Act mandated and funded the Enterprise Funds to invest in the private sector. However, the advisor believes that the Enterprise Funds are not particularly active investors in the environmental sectors of the region.

In some cases, this inactivity appears to be due to the "deal flow." Sufficient environmental business proposals that merit investment simply are not produced in the region. In other cases, it appears to the advisor that the funds lack the technical expertise to evaluate the technological basis of environmental business proposals they receive. This may result in the funds rejecting deals not for lack of merit but for lack of understanding.

## **E2. Lesson**

It is unlikely that the Enterprise Funds will make significant investments in environmental enterprises until the flow of prospective investment opportunities significantly increases. The region's private environmental sector must produce more proposals. Also, unbiased technical assistance must be available to the funds to assist them in evaluating environmental investment proposals.

## **E3. Recommendation**

USAID should consider supporting resources in the region that help local environmental entrepreneurs increase the number of investment proposals developed. This could lead to greater investment by the Enterprise Funds in the environmental sectors. Initiatives such as this one, the Entrepreneurship Center in Bratislava, and the Center for Emerging Technology in Warsaw are all examples of such activities.

USAID should consider establishing a center specifically to help domestic environmental firms in the region develop investment proposals. The proposals could be targeted not only to the Enterprise Funds, but also to other local venture capital funds that are gradually emerging in the region.

Finally, USAID should consider mechanisms (e.g. CDI), whereby they could provide, on demand, credible, unbiased technical assistance. Potential investors could request such technical resources to assist them with due diligence efforts on environmental investment proposals.

## **F. Environmental Solutions**

### **F1. Observation**

The countries in the region are obsessed with the idea of becoming part of the European Community. Thus, the region's regulatory agencies often mandate state-of-the-art environmental technologies, or standards that require those types of technologies. However, the countries cannot possibly afford to install such technologies in the foreseeable future. As a result, often no action is taken, and the quality of life does not improve. Training in pollution prevention and waste minimization are responses to this issue. However, they do not resolve pollution problems that fall outside the scope of those activities.

## **F2. Lesson**

The countries in the region would benefit from exposure to, and encouragement to use, alternative low-cost environmental technologies. These technologies may not be as effective or precise as state-of-the-art technologies. However, they often are much more affordable, can be easily implemented, and produce tangible benefits immediately.

## **F3. Recommendation**

USAID should consider educating environmental policy makers in the region about the benefits of alternative technologies, interim standards, and compliance schedules. It could help local environmental agencies become familiar with the benefits of alternative, low-cost technologies. It could encourage the development of mechanisms in the region through which Western manufacturers can establish credibility for such technologies. Finally, it could provide incentives and financial support for U.S. suppliers of such low-cost alternative technologies to bring their products to those markets where they might have the greatest social benefit.

**ANNEX A**

---

**EKOJOURNAL ARTICLE  
BUSINESS STRATEGY QUESTIONNAIRE  
MISCELLANEOUS DOCUMENTATION  
REFERENCES**

31

## EASTERN EUROPE ENVIRONMENTAL BUSINESS DEVELOPMENT PROJECT

The U. S. Agency for International Development (A.I.D.) believes that the development of an environmental goods and services sector in Eastern Europe is essential to improving environmental conditions and stimulating the expansion of the free market system in the region. A component of A.I.D.'s efforts to support these objectives involves providing a resident Environmental Business Advisor for Poland, Czechoslovakia and Hungary.

The principal activities of this Advisor are to:

(A) provide entrepreneurial assistance to the domestic environmental enterprises that are emerging to address critical environmental issues in Eastern Europe;

(B) improve the understanding and familiarity of the domestic entrepreneurs in the region with U.S. environmental services, products and technologies; and

(C) assist the pollution abatement and environmental regulation efforts of these emerging democracies by fostering the development of viable domestic private environmental sectors in the region.

### Environmental Business Advisor

U.S. AID has recently appointed Dr. Kenneth J. Macek as the Environmental Business Advisor for Eastern Europe. Based in Warsaw, Poland, Dr. Macek will work with environmental enterprises in Czechoslovakia which request such assistance. The majority of Dr. Macek's efforts will be focused on helping these domestic environmental enterprises gain access to U.S. investment, technologies and strategic partners in order to foster the development and long term viability of such environmental enterprises.

He will also be available, upon request, to (a) act as a liaison between domestic environmental enterprises and other related A.I.D. initiatives such as the Eastern European Venture Capital Funds; (b) assist the management of such enterprises in evaluating market opportunities for specific products and services, and developing strategic business plans, and (c) assist them in environmental product definition and prototype development.

Finally, Dr. Macek will assist domestic environmental enterprises to access feasibility investment funds and technical assistance funds available under the American Business Development and Private Sector Initiative Project. The principal objective of this project, recently announced by U.S. A.I.D., is to provide technical assistance to help environmental enterprises in Eastern Europe overcome some of the major constraints to the successful establishment of environmental businesses in the region.

Dr. Macek has over 20 years of professional business development experience in the U.S. environmental sector. He is the founder of two successful environmental consulting businesses. He also has served as a environmental business development and technology management consultant to many of the largest companies in the United States.

For additional information regarding this U.S. A.I.D. sponsored activity, or to request the assistance of the regional Environmental Business Advisor, please contact:

## PROJEKT ROZVOJE PODNIKÁNÍ V OBLASTI ŽIVOTNÍHO PROSTŘEDÍ PRO VÝCHODNÍ EVROPU

Americká agentura pro mezinárodní rozvoj věří, že vývoj výroba ekologických zařízení spolu s rozvojem služeb v oblasti životního prostředí je ve Východní Evropě nezbytným předpokladem pro vznik volného trhu a k zlepšení stavu životního prostředí. Proto se Americká agentura pro mezinárodní rozvoj rozhodla vyslat do Východní Evropy svého poradce pro podnikání v oblasti životního prostředí.

Jeho činnost se zaměřuje zejména na:

A. poskytování pomoci při podnikání československým firmám, které se zabývají řešením ekologických problémů;

B. seznámení se s úrovní amerických služeb, výrobků a technologií v oblasti životního prostředí;

C. pomoc při snižování znečištění životního prostředí zejména podporou soukromých firem zabývajících se ochranou životního prostředí v ČSFR.

### Poradce pro podnikání v oblasti životního prostředí

V současné době je již poradce pan Kenneth J. Macek ve své hlavní kanceláři ve Varšavě, odkud bude řídit spolupráci podniků a podnikatelů v Polsku, ČSFR a Maďarsku. Velká část úsilí pana Dr. Maceka bude zaměřena na pomoc podnikům v ČSFR získat přístup k americkým investicím, technologiím a strategickým partnerům. Dr. Macek bude kromě jiného pomáhat podnikům v ČSFR pracujícím v oblasti životního prostředí získat investice a technickou pomoc od Amerického projektu rozvoje podnikání a soukromého sektoru (American Business Development and Private Sector Initiative Project). Základním cílem tohoto projektu, který byl v těchto dnech vyhlášen Americkou agenturou pro mezinárodní rozvoj, je poskytovat technickou pomoc pro podniky a firmy z oblasti životního prostředí ve Východní Evropě a překonat hlavní problémy při zakládání úspěšného podniku zaměřeného na ochranu životního prostředí.

Dr. Macek má více než dvacetileté zkušenosti v oblasti rozvoje podnikání v problematice životního prostředí v USA. Je zakladatelem dvou úspěšných konzultačních firem v oblasti životního prostředí. Pracoval také jako konzultant v otázkách rozvoje "ekologického" podnikání pro největší společnosti v USA.

Další informace týkající se Americké agentury pro mezinárodní rozvoj a žádosti o spolupráci s regionálním poradcem pro podnikání v oblasti životního prostředí na adrese:

**Dr. Kenneth J. Macek**  
**ul. Nowiniarska 1, m.28**  
**00-235 Warsaw, Poland**  
**tel/fax (482) 635-4531**

**REQUIRED INFORMATION**  
**APPLICATION FOR FINANCIAL SUPPORT FROM**  
**THE POLISH-AMERICAN ENTERPRISE FUND**

**PRODUCT/SERVICE**

What is being offered for sale? Be as specific as possible with respect to function, range, size, etc.

(The description of the products offered should relate DIRECTLY to the description of the customers, the competitors, and the market size.)

**END USE**

What are the functions performed by the specific products offered?

**CUSTOMERS**

Who will purchase the products DESCRIBED ABOVE in order to affect the end use DESCRIBED ABOVE?

What geographic area will be served? When?

**DIRECT COMPETITORS**

Who are the top three Polish competitors (based on last year's sales of the products DESCRIBED ABOVE to the customers DESCRIBED ABOVE in order to accomplish the end use DESCRIBED ABOVE)?

How much sales in Zlotys or number of units sold did each have last year to the customers DESCRIBED ABOVE?

Are there any foreign competitors?

Which are the major competitors for your company (rank the top three in terms of their sales of the products DESCRIBED ABOVE to the customers DESCRIBED ABOVE)?

**COMPETITIVE ADVANTAGES**

Why will a customer buy your product versus one available from another company?

## FINANCIAL

What was the financial performance of the company IN THE MARKETS DESCRIBED ABOVE for the previous 2-3 years?

What is the estimated financial performance of the company during this year?

What are the projected financial for the next 3 years?

What assumptions are the basis for the projected financial.

Suggested form for operating statements:

	1990	1991	1992	1993	1994	1995
Market (\$)						
Orders (\$)						
Turnover (\$)						
Market Share (%)						
Cost of Production (\$)						
Gross Margin (\$)						
Gross Margin (%)						
Research (\$)						
Commissions (\$)						
Advertising (\$)						
Administration (\$)						
Profit (\$)						
Profit (%)						

## TURNOVER DETAIL

Explain the origin of the turnover in terms of products, customers, combination of the two, geographical areas, by distributors, etc.

## MILESTONES

What specific events must happen, and when, in order for the financial projections to materialize as forecasted (e.g. capital investment, product development, advertising, award of a major contract, etc.)

What specific competitive advantages do you have versus other Polish suppliers?

What specific competitive advantages do you have versus other foreign suppliers?

Such advantages typically relate to

- specific performance characteristics (e.g. efficiency, range, etc.)
- customer support for the product maintenance
- ease of product use
- price
- cost to operate
- reliability of performance
- life expectancy of the product
- extent of warranty

What specific competitive disadvantage do you have versus your number 1 & 2 competitors.

## DRIVING FORCES

What is it that makes the customers DESCRIBED ABOVE purchase the product DESCRIBED ABOVE from any of the suppliers (competitors) DESCRIBED ABOVE?

What are the specific external factors which makes the end use DESCRIBED ABOVE a requirement?

## MARKET

What are the factors that influence someone to decide to where to purchase the product? These factors typically relate to price and performance and together influence where the customer goes to purchase the product.

How many potential customers are there in Poland? Who are they? Where are they?

How many units (of each type of product) can you currently produce in a year.

By what other means can a potential customer accomplish the END USE described above?

FAX TRANSMISSION  
48/2 635-4531

USAID  
Intraco Building - 26th Floor  
2, Siawki Street  
00-193 Warsaw, Poland  
Tel: 48/2-635-8857  
Fax: 48/2-635-9863

February 11, 1993

Ken Majec  
TMS Management Consulting  
ul Nowiniarska 1, m 28  
00-235 Warsaw, Poland

Dear Ken,

When I first arrived in Warsaw you turned over to me a variety of leads you developed. One of those leads has proven of great interest; that was Metanel.

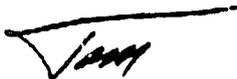
Metanel, as you will recall, is anxious to develop coalbed methane resources associated with various concessions in Silesia. It's principal partner, Elektrim along with Bankers Trust Company, and I have met several times to discuss this opportunity, and those discussions will continue.

At the moment Metanel has an agreement with a US company which they found through the EPA. This agreement with a small, Colorado based company known as Delphian, was recently signed (and in my opinion, was not an optimal partner for Metanel, a belief also beginning to be shared by the management of Elektrim). If, for some reason, Delphian fails to deliver, then through our office we are prepared to bring Metanel together with Conoco which has expressed a strong interest in exploring a deal with Metanel. Delphian has a couple of months to deliver on its agreement, and Elektrim will advise us accordingly.

So that's where the opportunity stands. Your lead has been very helpful in engaging this office in meaningful discussions on the highest levels within Elektrim, for which I am grateful. It has also indirectly lead to meaningful negotiations between Conoco and a major Czech company.

Before you depart for greener pastures, if you have any other contacts which you think might be useful, please give me a ring.

Yours very truly,



Thomas J. Sherwood  
Regional Business Development Office

International Marketing Consortium, 2809 Boston St., Suite#404, Balto., MD 21224  
Telephone#: 410-327-3700 & Fax#:410-327-3702

Date Transmitted: November 8, 1992

From: Anne R. Riggle

Message:

To: Ken Macek

Fax #: 011-48-2-635-4531

Dear Ken:

Tks for yr fax. The Marketing Agreement is between GMS & IMC and it is for a period of five years. Payment is based upon success. The exact strategy will be defined over the next six months. We are meeting with GMS in December for a week to begin to develop the strategy. Until we have a more clearly defined understanding of GMS activities, I am afraid that we can not develop the action plan. So the first six months will be devoted to reviewing GMS and their capabilities. Perhaps in March/April time frame when you are in Prague, we could meet and give you a better picture. We appreciated your suggestion and help. We, of course, are willing to share with you ( with GMS approval ) our on-going progress.

We wish you luck in your endeavors--Cape Cod is lovely !! Please keep

in touch !!!

Best Regards,

Anne R. Riggle

International Marketing Consortium, 2809 Boston St., Suite#404, Balto., MD 21224  
Telephone#: 410-327-3700 & Fax#:410-327-3702

Date Transmitted: February 8, 1993

From: Anne R. Riggle

Message:

To: Kenneth J. Macek

Fax #: 011-48-2-635 4531

Dear Ken:

For your final report we can advise that we met with GMS in December in Prague. We introduced a U.S. company by the name of Scientific Control to GMS and they spent a week working together developing a marketing plan. They will focus on addressing environmental clean-up and start with Environmental Audit Reports. A brochure is being prepared and the audit report format will be provided by Scientific Control. Scientific Control introduced GMS to a U.S. Mining firm in January when they were here for a meeting in the States.

Scientific Control is an environmental testing company based in Baltimore, Maryland:

210 N. Tollgate Road, Unit 100, Suite 8, P.O. Box 771, Bel Air, MD 21014-0771

Phone: 410-893-6600 and Fax: 410-893-9148

Their President is Mr. John Ciresi. Please feel free to contact John and perhaps you can meet with him the next time he comes to Prague. I have forwarded a copy of your fax to him and recommended that he send you a brochure.

We project that it will take several years before significant progress is realized for both companies.

We wish you good luck in your future endeavors.

Best Regards,  
Anne R. Riggle  
President

4 December 1992

Mr. Kenneth J. Macek  
TMS Management Consulting, Inc.  
ul. Nowiniarska 1, m 28  
00-235 Warsaw  
Poland

Dear Mr. Macek:

The purpose of this correspondence is to express Camp Dresser & McKee Inc.'s (CDM's) continuing interest in the proposed environmental laboratory project in Kosice, in eastern Slovakia.

It is our understanding that CDM's participation in this project would include a minority equity position (approximately 20%) and a continuing operational management and technical support function.

As discussed in our recent telephone conversation of 2 December 1992, CDM's financial participation will be contingent on assuring the overall, long-term economic viability of the project.

As a means of assessing economic viability, CDM recommends a two-phased approach consisting of development of a Preliminary Marketing Plan followed by preparation of a Conceptual Design Plan.

The Preliminary Marketing Plan will consist of the collection and evaluation of information to assess the following critical success parameters:

- 1.0 Market Size - Identify potential clients within 8-12 hours surface transportation travel time
  - Parameters for analysis
  - Number of samples per month
  - Interest in long-term analytical contract
  - Purpose of analysis (regulatory compliance, process control, etc.)
  - Where do they currently procure analytical services
  - Interest in equity position in laboratory

Mr. Kenneth J. Macek  
4 December 1992  
Page - 2 -

- 2.0 **Potential Revenues** - Identify acceptable/standard analytical costs in eastern Slovakia and surrounding areas
- Price lists from laboratories identified in Section 1.0
  - Acceptance criteria for analytical service costs used by local government agencies or other international organizations working in the area
- 3.0 **Other Sources of Potential Revenues** - Identify other services that may be a source of revenues for the laboratory operation.
- Bench-scale and/or pilot-scale studies
  - Field sampling services
  - Consulting services
  - QA/QC services for other laboratories
  - Support of USAID and other international projects
- 4.0 **Local Competition** - Identify other laboratories that provide analytical services in the local area and their pricing strategy
- Private laboratories
  - Government laboratories
  - University laboratories
  - Research institutes
- 5.0 **Regulations** - Identify existing and proposed regulations that will require compliance monitoring. Other than process control, few industries will conduct environmental analyses in the absence of a regulatory requirement
- Environmental regulations
  - Property transfer requirements
- 6.0 **Availability of Trained Staff** - Identify the availability of trained analytical staff, both graduate and post-graduate levels, for the laboratory
- Local universities
  - Research institutes
  - Other companies
  - Government agencies

It is anticipated that some additional training will be required for qualified staff for specific analytical procedures and instrumentation techniques.

Mr. Kenneth J. Macek  
4 December 1992  
Page - 3 -

- 7.0 **Economic Issues** - Assurance that profits from the laboratory operations can be repatriated into US\$ will be an absolute requirement. In addition, the legal issues associated with "ownership" by an international entity must be further investigated.

Costs for the preparation of a Preliminary Marketing Plan for the Kosice laboratory are estimated to be approximately 10,000 US\$. It has been suggested that the Slovak-American Enterprise Fund may be willing to fund this study.

If warranted by the results of the Preliminary Marketing Plan, a Conceptual Design Report will be prepared. The Conceptual Design Report will provide the following information which can be used as client input into the preliminary and final design of the laboratory facilities:

- Evaluation of existing resources including laboratory facilities, equipment and instrumentation, and personnel
- Evaluation of current workload, capabilities, and sample capacity
- Projection of future workload, capabilities, and sample capacity requirements
- Estimation of general facility space requirements and adjacencies, personnel requirements, and ancillary services needed to accommodate the workload, capability, and capacity projections
- Identify any special physical requirements of the proposed facility, such as electrical, cooling, and plumbing, that should be incorporated when the preliminary design phase of the laboratory upgrading project is undertaken following this conceptual design
- Development of a preliminary design, construction and implementation schedule for the laboratory facility

In addition, an analysis of costs, both capital and operational, versus potential revenues based on a 3-5 year pay-back period will be prepared. This evaluation will be the basis of a "go or no-go" decision for the project.

Excerpts from a similar Conceptual Design Report prepared for the Ministry of Water Resources for the Sultanate of Oman prepared by CDM under contract to USAID have been included for your reference.

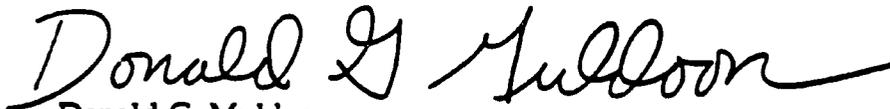
Mr. Kenneth J. Macek  
4 December 1992  
Page - 4 -

Costs for the preparation of a similar document for this project is estimated to be between 50,000 - 75,000 US\$.

If you have any questions concerning this approach or require any additional information, please contact me directly in Cambridge.

Sincerely,

CAMP DRESSER & McKEE INTERNATIONAL INC.



Donald G. Muldoon  
Vice President

DGM/cc

cc: W. D. Moran  
H. M. Ewoldsen

Mr. Charles Huebner  
Director  
Hungarian American Enterprise Fund  
East-West Business Center, 6 fl.  
Rakoczi ut 1-3.  
H-1088 Budapest, Hungary

January 27, 1993.

Dear Mr. Huebner,

I'm Ivan Gyulai, running with an independent institute for sustainable development in Miskolc. I was requested by Kenneth J. Macek, who is an Environmental Business Advisor of Central Europe, for evaluating the HYDROCOR's investment proposal on waste paint processing.

Carefully reading the proposal it was found useful for Hungary. On one hand this is a fact that some million tons of waste paint sludges are disposed in Hungary and might be threats come out from the non-suitable storage. According to our experience a lot of illegal hazardous waste sites contain such wastes contributing to heavy metal pollution.

The described technology can be a solution for processing the waste paint sludges. Even the final product offers a business opportunity as well. So I recommend the submitted proposal for support.

Sincerely Yours,

  
Ivan Gyulai  
director

# electronic & environmental systems

Lomená 3B  
617 00 Bmo  
Česká republika

Telephone: (05) 33 11 11 ext 200  
Fax: (05) 33 11 19

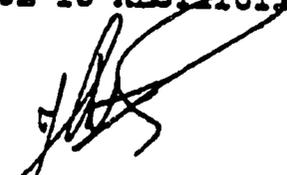
## REPORT.

### ASSISTANCE PROVIDED BY MR. MACEK OF TMS INC.

DURING HIS ACTIVITIES IN CZECHOSLOVAKIA, MR. MACEK PROVIDED US WITH A COMPREHENSIVE LIST OF CONTACT NAMES OF COMPANIES INVOLVED IN ENVIRONMENTAL PROTECTION. FROM THIS I ESTIMATE THAT MORE THAN ONE HUNDRED WILL BE GOOD POTENTIAL CUSTOMERS.

THE MOST VALUABLE ASSISTANCE HOWEVER WAS HIS ADVICE AND HELP ON THE SUBJECT OF PUBLICITY AND ADVERTISING. IN PARTICULAR HE ASSISTED US IN MAKING CONTACT WITH THE PUBLISHERS OF EKOJOURNAL - PRAGUE WHERE WE HAVE ALREADY BEGUN TO ADVERTISE. WE ALSO PLAN TO RUN MORE ADVERTISING IN THIS MAGAZINE AND IN RETURN FOR OUR INVESTMENT, THE PUBLISHERS HAVE AGREED TO PRINT A SERIES OF TECHNICAL ARTICLES ON OUR PRODUCT RANGE.

IT IS STILL TOO EARLY TO JUDGE THE RESULTS ACCURATELY, BUT I AM CONFIDENT THAT THEY WILL BE VERY POSITIVE AND WILL HELP IN INCREASING TURNOVER. EVEN AT THIS EARLY STAGE WE HAVE A GOOD NUMBER OF FIRM SALES LEADS AND THE PRIME REASON THAT THESE HAVE NOT YET BEEN CONVERTED TO FIRM ORDERS IS THE RESULT OF THE CHANGES IN THE TAX SYSTEM AND IMPORT CONTROLS, BOTH OF WHICH HAVE CAUSED A GOOD DEAL OF CONFUSION SINCE THEY WERE INTRODUCED ON 1st. JANUARY 1993. IN ONE CASE WHERE WE EXPECT AN EXCEPTIONALLY LARGE ORDER, THE DELAY IS DUE TO RESTITUTION CLAIMS THAT ARE STILL TO BE SETTLED.

  
JIM AINSWORTH.

DIRECTOR.

---

## REFERENCES

---

1. Separate analyses, entitled *Domestic Environmental Products and Services Sectors: An Assessment of the Current Status and Future Potential*, were prepared for three countries: Poland (Kenneth J. Macek and Gregory K. Schwartz, October 1991); Czechoslovakia (Kenneth J. Macek, January 1992); and Hungary (Kenneth J. Macek, January 1992). TMS Management Consulting, Inc., Boston, Massachusetts.
2. *Technology Review, Assessment and Recommendations for Polish Environmental Product Manufacturers*. Ron Tolmei, Ph.D., PRIDE, Washington, D.C. February 1993.
3. Strategic Business Plan. A Plan prepared for ProEko, Ltd., Warsaw, Poland. Kenneth J. Macek, PRIDE, Washington, D.C. August 1992.
4. *Market Assessment: The Municipal Environmental Consulting & Engineering Services Market in Poland*. A report prepared for ProEko, Ltd., Warsaw, Poland. Kenneth J. Macek, PRIDE, Washington, D.C. January 1993.
5. Prospectus and application submitted to the Enterprise Credit Corporation, Polish-American Enterprise Fund, Warsaw, Poland on behalf of ELCO Sp.zo.o., Warsaw, Poland. Kenneth J. Macek, PRIDE, Washington, D.C. December 1992.
6. *Technology Review, Assessment and Recommendations for Water Filtration Systems*. A Report to ELCO Sp.zo.o., Warsaw, Ron Tolmei, Ph.D., PRIDE, Washington, D.C. February 1993.
7. Prospectus and Application submitted to the Enterprise Credit Corporation, Polish-American Enterprise Fund, Warsaw, Poland on behalf of ELCO Sp.zo.o., Poznan, Poland. Kenneth J. Macek, PRIDE, Washington, D.C. January 1993.
8. *Technology Review, Assessment and Recommendations for Control of Compressor and Blower Systems*. A Report to ASKOM Sp.zo.o., Poznan, Poland. Ron Tolmei, Ph.D., PRIDE, Washington, D.C. February 1993.
9. *Technology Review, Assessment and Recommendations for Electrostatic Air Filtering Systems*. A report to PEFO, Ltd., Wroclaw, Poland. Ron Tolmei, Ph.D., PRIDE, Washington, D.C. February 1993.
10. Prospectus and Business Plan submitted to Sanders International on behalf of WIMEX Sp.zo.o., Bydgoszcz, Poland. Kenneth J. Macek, PRIDE, Washington, D.C. March 1993.
11. Investment proposal submitted to the Hungarian-American Enterprise Fund on behalf of HYDROCOR, Kft., Budapest, Hungary. Kenneth J. Macek, PRIDE, Washington, D.C. January 1993.

**ANNEX B**

---

**EASTERN EUROPEAN ENVIRONMENTAL COMPANIES  
EVALUATED DURING NEEDS ASSESSMENT PHASE**

**U.S. ENVIRONMENTAL COMPANIES RECEIVING ASSISTANCE  
FROM THE AID RESIDENT ENVIRONMENTAL BUSINESS ADVISOR**

45

**EASTERN EUROPEAN ENVIRONMENTAL COMPANIES  
EVALUTED DURING NEEDS ASSESSMENT PHASE**

APS - ECOS s.r.o., Alvinczyho 27, 040 01 Kosice, SLOVAK  
REPUBLIC. Mr. Jan Hoppan, Director, TEL: (42-95) 343-11.

AQUATEST, Gorkeho Nam. 7, 113.09 Praha 1, CZECH REPUBLIC.  
Mr. Vladimir Kolaja., TEL: (42-2) 325-3241.

ASKOM Co. Ltd., ul. Kordeckiego 58, 60-144 Poznan, POLAND  
Mr. Wladyslaw Strozyk, Director, TEL: (48-61) 327-590.

BIOPUR, ul. Kosciuszki 44, 52-151 Wroclaw, POLAND  
Ms. Irena Langowska, Prezes; TEL: (48-71) 678-274.

BUDIMEX, ul. Lubelska 46, 10-409 Olsztyn, POLAND  
Mr. Leon Miloszewski, TEL: (48-889) 332-926.

"DEA-2" EXPORT-IMPORT, ul. Krzyzanowskiego 11 m 1, 75-328  
Koszalin, POLAND, Elwira Grabowska, TEL: (48-22) 765-176.

DIGITAL EQUIPMENT s.r.o., Mileticova 23, 820 06 Bratislava,  
SLOVAK REPUBLIC. Mr. Juraj Ondris, TEL: (42-7) 69-896.

EBRO, ul. Kasztanowa 10/34, 16-400 Suwalki, POLAND  
Mr. Romuald Turczynski, TEL: (48-87) 626-45.

ECO-GEO, Korandova 32, 147 00 Praha 4, CZECH REPUBLIC.  
Dr. Jaroslav Vrba, TEL: (42-2) 472-7447.

EKOLOG, ul. Dabrowskiego 8, 64-920 Pila, POLAND  
Mr. Krzysztof Pachocki, Manager, TEL (48-67) 233-28.

EKO ZBER, Medvedovej 22, 900 62 Kostoliste, SLOVAK REPUBLIC.  
Mr. Ludovit Molnar, Director, TEL: (42-7) 819-671.

ELCO Sp.zo.o., ul. Gorczewska 62/64, 01-401 Warsaw, POLAND  
Jerzy Gorski, President, TEL: (48-22) 360-155.

ELECTRONIC & ENVIRONMENTAL SYSTEMS, Lomena 38, 617 00 Brno,  
CZECH REPUBLIC. Mr. Jim Ainsworth, Director, TEL: (42-5) 331-  
111.

FLV Kft., Rakospatak u. 70-72, 1142, Budapest, HUNGARY.  
Mr. Ferenc Steiner, Manager, TEL: (36-1) 251-5000.

GAIA, ul. Opolska 33/240, 31-276 Krakow, POLAND  
Mr. Daniel Danilewski, Director, TEL: (48-12) 335-916.

GALLAVIT, Kolozsvari u. 15, 2805 Tatabanya, HUNGARY.  
Mr. Laszlo Kozicz, Manager, TEL: (36-34) 23-614.

GEOINDUSTRIA, P.O. BOX 45, Pristavni 24, 170 04 Praha 7,  
CZECH REPUBLIC. Mr. Pavel Hepnar, TEL: (42-2) 802-041.

GEOS, ul. Gorska 1, 31-628 Krakow, POLAND  
Mr. Marek Razowski, Wiceprezes Zarzadu, TEL: (48-12) 127-771.

HYDROBODOWA SLASK, ul. Francuska 34, 40-028 Katowice, POLAND ,  
Mr. Janusz Sokolowski, TEL: (48-832) 155-2161.

HYDROCOR, Kassai ter.34, 1142 Budapest, HUNGARY  
Mr. Arpad Lorincz, President, TEL: (36-1) 251-0677.

INGEO, RajECKa cesta 32, 010 00 Zilina, SLOVAK REPUBLIC.  
Dr. Rudolf Rentka, Manager, TEL: (42-89) 317-14.

INSTAL, ul. Pomorska 58/67, 59-220 Legnica, POLAND  
Mr. Jerzy Grabski, President, (48-876) 61-362.

INTEKO, ul. Milionowa 2, 93-034 Lodz , POLAND  
Mr. Ryszard Krzeminski, Director, TEL: (48-42) 841-178.

KLIMAT, Mathanova 72, 613 00 Brno, CZECH REPUBLIC.  
Mr. Milan Tesar, TEL/FAX (42-5) 529-516.

KOTREM, ul. Krotka 3, 42-200 Czestochowa, POLAND  
Mr. Andrzej Tymieniecki, President, TEL: (48-833) 438-12.

KOWENT S.A., ul. Warszawska 52, 26-200 Konskie, POLAND  
Mr. Jan Zbigniew Sipika, President, TEL: (48-4112) 62-64.

Klub Zeleneho Telefonu (KZT), U zahradniho mesta 4, 106 00  
Praha, CZECH REPUBLIC. Mr. Jan Vrba, TEL: (42-2) 752-875.

METANEL S.A., ul. Pulawska 18, 00-975 Warsaw, POLAND  
Mr. Jan Niegowski, Director, TEL: (48-22) 481-997.

NATURA, Molnar Viktor u.94, 1158 Budapest, HUNGARY  
Mr. Laszlo Kovacs, TEL: (36-1) 164-8868

PEFO, ul. Długa 41/47, 53-633 Wrocław, POLAND  
Wiesław Gaczynski, General Manager, TEL: (48-71) 550-175.

POLINVEST, al. 3 Maja, no.9, 30-062 Kracow, POLAND  
Ms. Maura McGovern, Consultant, TEL: (48-12) 342-680.

PROEKO, ul. Krzywickiego 34, m.233, 02-078 Warszawa, POLAND  
Mr. Bronisław Kaminski, Chairman, TEL: (48-2) 625-3648.

PROMIN, ul. Lesna 19, 85-676 Bydgoszcz, POLAND  
Mr. Jan Wojcik, Director, TEL: (48-852) 418-064.

PRO-PLUS, Hernad St. 48, 1078 Budapest, HUNGARY.  
Mr. Geza Fazekas, General Manager, TEL: (36-1) 122-8233.

PROTECH, Al. Pilsudskiego 153, 92-318 Lodz, POLAND  
Mr. Stefan Koslinski, Project Engineer, TEL: (48-42) 747-636.

SENSOR Inc., Radlinskeho 47, 811 07 Bratislava, SLOVAK  
REPUBLIC. Dr. Tomas Andrezal, TEL. (42-7) 497-876.

TERenBUD, ul. Roentgena 18, 71-687 Szczecin, POLAND  
Mr. Robert Bugajny, Director, TEL: (48-91) 232-021 w.330.

TRANSDANUBIA, Otvos Janos u.1-3, 1021 Budapest, HUNGARY  
Ms. Agnes Pintye, Director, TEL: (36-1) 176-2722.

VITKOVICE, 706 02 Ostrava 6, CZECH REPUBLIC.  
Mr. Josef Matheisl, Manager, TEL: (42-69) 202-6805.

VKS -INVEST Ltd., ul. Vikletova 20, 130 00 Praha 3, CZECH  
REPUBLIC. Mr. Anton Gerak, TEL: (42-2) 644-2465.

VSZ a.s., Strojarné, 044 54 Kosice, SLOVAK REPUBLIC  
Mr. Michal Handiak, Director, TEL: (42-95) 766-339.

Ing. Anton Vujcik, Opatowska cesta 21, 040 01 Kosice, SLOVAK  
REPUBLIC. TEL: (42-95) 765-027.

WIMEX Co. Ltd., ul. Ruminskiego 6, 85-030 Bydgoszcz, POLAND  
Mr. Zygmunt Muszynski, Director, TEL: (48-852) 211-633.

**U.S. ENVIRONMENTAL COMPANIES RECEIVING ASSISTANCE  
FROM THE AID RESIDENT ENVIRONMENTAL BUSINESS ADVISOR**

ADVANCED WASTE MANAGEMENT SYSTEMS, Inc., P.O. BOX 100, Hixon,  
TN 37343. Dr. Rick Ellis, Chairman.

ARTHUR D. LITTLE, Acorn Park, Cambridge, MA 02140-2390.  
Dr. Andrew J. Syska.

BIENSTOCK, LUCCHESI & ASSOCIATES, 134 Broadway, Amityville,  
New York 11701. Mr. Tibor Elek, Director of International  
Projects.

CAMP, DRESSER & MCKEE Intl., Inc., Ten Cambridge Center,  
Cambridge, MA 02142. Mr. Dennis Moran. President.

CH2MHILL, 2300 N.W. Walnut Blvd., P.O. BOX 428, Corvallis, OR  
97339. Mr. Jay A. Mackie, Vice President.

COALPLEX INTERNATIONAL, INC., 101 Convention Center Drive,  
Suite 895, Las Vegas, NV 89109. Mr. Daniel Longworth, CEO.

COMCO MARTECH Europe AG, Wytttenbachstrasse 2, CH-2502 Biel,  
SWITZERLAND. Mr. John Malanchuk, President.

DIGITAL EQUIPMENT CORPORATION, 200 Forest Street,  
Marlborough, MA 01752-3011. Mr. Bob Karpinski, Manager,  
Business Development.

DUCON ENVIRONMENTAL SYSTEMS, 110 Bi-County Blvd., Suite 115,  
Farmingdale, N.Y. 11735. Mr. Aron Govil, Managing Director.

DYNAMAC Corporation, 2275 Research Boulevard, Suite 500,  
Rockville, MD 20850-3288. Dr. Sam R. Petrocelli, Director,  
Chemical Risk Management.

ECOLOGICAL ENGINEERING ASSOCIATES, 13 Marconi Lane, Marion,  
MA 02738. Mr. Phil Henderson, CEO.

ECOLOGY & ENVIRONMENT, Inc., Rosslyn Center, 1700 N. Moore  
St., Arlington, VA 22209. Mr. Robert L. Schreibeis, Director,  
European Programs.

EG&G, Inc., 40 William Street, Wellesley, MA 02182-4076. Mr. Robert Ward, Manger, Business Development.

ENCOR, 12021 Lakeland Park Blvd., Baton Rouge, LA 70809. Mr. Greg Chevallier, Manager, Business Development.

ENSYS INC., P.O. BOX 14063, Research Triangle Park, NC 27709. Mr. Kevin R. Carter, Vice President, Marketing.

ENVIRONMENTAL TECHNOLOGIES Intl., 415 Central Park West, Suite 15E, New York, NY 10025. Mr. Eric Urbani, President.

EPCO Inc., Middle Quarter 101, Woodbury, CT 06798. Mr. Ralph Brill, Director.

FILTER FLOW TECHNOLOGY, 3027 Marina Bay Dr., Suite 110, League City, TX 77573. Mr. Tod S. Johnson, President.

GERATHY & MILLER INT., Inc., 901 Hildebrand Lane, N.E., Brainbridge Island, WA 98110. Mr. Robert B. Ziegler, President.

GOLDER ASSOCIATES, 1809 North Mill St., Suite C, Naperville, IL 60563. Mr. Peter Vardi, Manager European Operations.

GROUNDWATER TECHNOLOGY, Inc., 3110 Cherry Palm Dr., Suite 390, Tampa, FL 33619. Dr. Martin Trnovsky, Vice-President.

GZA GEOENVIRONMENTAL, Inc., 320 Needham St., Newton Upper Falls, MA 02164. Mr. John E. Ayres, President.

HNU SYSTEMS, 160 Charlemont St., Newton Highlands, MA 02161-9987. Mr. John N. Driscoll, President.

HYDROLAB, P.O. Box 50116, Austin, TX 78763. Mr. Jim Flynn, Vice President Marketing.

INTERMARK CORPORATION, 2 Georgia Circle, Rossville, GA 30741. Mr. Stan Siedlecki, President.

INTERNATIONAL MARKETING CONSORTIUM, 16900 Norbrook Dr., Olney, MD 20832. Ms. Mary S. Boyer, Environmental Director.

JACOBS ENGINEERING GROUP, 1234 National Press Building, 529 14th St., N.W., Washington, DC 20045. Ms. Laurie Jo McCarthy Business Development Manager.

JAMES M. MONTGOMERY, Consulting Engineers, Inc., 501 Lennon Lane, Suite 200, Walnut Creek, CA 94598. Dr. Michael Kavanaugh, Vice President.

KBN, 1034 Northwest 57th St., Gainesville,, FL 32505  
Mr. James Newman, Vice President.

MABBETT & ASSOCIATES, Inc., Five Alfred Circle, Bedford, MA 01730. Mr. Christopher J. Horan, Environmental Scientist.

MILLIPORE, 80 Ashby Road, Bedford, MA 01730. Ms. Linda Dohrman, Marketing Manager.

MORRISON KNUDSEN CORPORATION, Morrison Knudsen Plaza, 720 Park Boulevard, Boise, ID 83729. Mr. Mac Hartley, Director, International Business Development.

NRT National Recovery Technologies, Inc., 566 Mainstream Dr., Nashville, TN 37228-1223. Mr. Charles E. Roos, Chairman.

POST, BUCKLEY, SCHUH & JERNIGAN, Inc., 1400 Centrepark Blvd., Suite 200, West Palm Beach, FL 33401. Mr. Richard Reikenis, Vice President.

PRC, Inc., 2021 Girard Boulevard SE, Suite 250, Albuquerque, NM 87106. Mr. Jens Deichmann, Director European Operations.

QUANTIX, Agri-Diagnostics Associates, One Executive Drive, Suites 9 & 10, Moorestown, NJ 08057. Mr. Steven Cohen, Director, Environmental Products Group.

SAIC, 1710 Goodridge Drive, Mc Lean, VA 22102. Ms. Monica Dussman, Senior Environmental Program Manager.

SA INTERNATIONAL, Inc., 2928 Suffolk, Houston, TX 77027.  
Mr. Vlastik Svacina, President.

SIPPICAN, Inc., Seven Barnabas Road, Marion, MA 02738-1499.  
Mr. William Walsh, President.

SPECTRUM SCIENCE & SOFTWARE, Inc., 242 Vicki Leigh Road, Fort Walton Beach, FL 32548-3031. Mr. Donald R. Myrick, President.

SPRINGBORN LABORATORIES, 790 Main Street, Wareham, MA 02571.  
Mr. Bob Foster, President.

TEXAS ENVIRONMENTAL SERVICE & TESTING, Inc., 307 East College Street, Nacogdoches, TX 75961. Mr. John R. Haas.

THE SEA CREST GROUP, 700 East High St., Charlottesville, VA 22902. Mr. C. Michael Moffitt, CEO.

TIGHE & BOND, 124 Mt. Auburn St., Suite 200, Cambridge, MA 02138. Mr. Eric Buehrens, Director, International Business.

UEC, Binckhurstlaan 117, P.O.Box 91/2501 AK, 2516 The Hague, NETHERLANDS. Mr. Henry Bermanis, Managing Director, Europe.

WASTE MANAGEMENT Intl.Plc., Kruispein 25, P.O. Box 171, 3000 AD Rotterdam, 3014 DB Rotterdam, NETHERLANDS. Mr. Joe Zorn, Vice President.

WILLIAM T. LORENZ & CO., Management Consultants, 85 Warren St., Concord, NH 03301. Mr. William T. Lorenz, President.