Conference Proceedings

Conference on Energy Restructuring & Economic Reform in Central/Eastern Europe and the New Independent States

Energy and Infrastructure Division
Bureau for Europe and the New Independent States
U.S. Agency for International Development
Reston, Virginia
January 5-6, 1995

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Opening Remarks

by: Robert F. Ichord, Jr.

Welcome to this first combined energy program review meeting of AID's Bureau for Europe and the New Independent States. It is important to take a brief pause in our hectic program implementation schedules, to take stock of what we have accomplished and the lessons we have learned, and consider where we are headed. This meeting is especially designed to foster a common understanding of the experiences across both Centra/Eastern Europe and the NIS, since I feel many of the lessons are transferable. We have an impressive set of resources to draw on in the industry, U.S. agencies, NGO and national laboratory organizations represented here today.

We face a major challenge with the new political environment in Congress and the budgetary constraints in the assistance programs. We ate fortunate to have Tom Dine, Tom Simons and Ralph Johnson here today to help us understand this environment and the policy considerations affecting our energy assistance programs.

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FINAL PROGRAM

Thursday, January 5

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Russia Gene George, *Director, Office of Energy & Technology, USAID/Moscow*

Romania: Richard Hough, *AID Representative, USAID/Bucharest*

Ukraine: James Osborn, *Energy & Environment Officer, USAID/Kiev*

Bulgaria: John Tennant, *USAID Representative, USAID/Sophia*

Central Asian Republics: Barry Primm, *Energy & Environment Officer, USAID/Almaty*

Slovakia: Loren Schulze, *Chief, Energy, Environment & Urban Development, USAID/Bratislava*

Armenia/Georgia: Harout Topsacalian, *Energy Specialist/Chief, IDEA Inc., Field Office, Yerevan*

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Russia: David Jermain, *Project Manager, Privatization, and Restructuring in Russia, RCG/Hagler Bailly*

Poland: Henk Busz, *Principal Financial Analyst, IBRD*
John Sachs, *Attorney at Law, Latham and Watkins*

Slovakia: Floyd Davis, *Manager, Power Systems, International Technology & Resources, Bechtel Corporation*

Ukraine: E. Hodson Thornber, *Managing Director, Putnam, Hayes Bartlett, Washington*

Bulgaria: Eric Haskins, *Program Manager, Utility Partnership Program/CEE, U.S. Energy Assn*
Constance Irland, *Managing Director, CMP Consultants International*

Baltics: Charles Smith, *Vice President & General Manager for International Programs, Electrotek Concepts*

Energy Efficiency and Environmental Improvement

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District Heating/Low Emissions: Howard Feibus, *Director, Office of Clean Coal Technology, U.S. Department of Energy*

NGO Energy Efficiency Centers: William Chandler, *Director, International Studies, DOE/Battelle, Pacific Northwest Labs*

Power Plant Efficiency: Sam B. Gerges, *Project Director, Burns and Roe*

Energy Service Companies: David Keith, *Vice President, RCG/Hagler Bailly*

Industrial Energy Efficiency: Wesley Foell, *President, Resource Management Associates (RMA)*

Demand-Side Management: David Wolcott, *Manager, RCG/Hagler Bailly*

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Romania Regulatory Approach: Akin Oduolowu, *Principal Energy Specialist, IBRD*

Hungary Mining Office: Robert Middleton, *Project Officer, Minerals Management Service, U.S. Department of Interior*

Russia Corporate Restructuring:
Charles McPherson, *Principal Energy Economist, IBRD*
Igor Artemiev, *Private Sector Development Specialist, IBRD*

Ukraine Petroleum Legislation: Thad Grundy, Jr., *Attorney at Law, Akin, Gump*

Coal Modernization: William Meagher, *Managing Dir, Partners in Economic Reform (PIER)*

Gas Partnerships: William L. Polen, *Program Manager, Energy Industry Partnership Program/NIS, United States Energy Association*

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Legal/Regulatory Framework, Carl Stoiber, *Director, Office of International Programs, Nuclear Regulatory Commission*

Nuclear Industry Restructuring, Kristen Suokko, *Acting Director, Office of Nuclear Energy, U.S. Department of Energy*

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Initial Indicators/Targets: Robert Ichord, *Chief, Energy and Infrastructure Division, ENI/EEUD/EI, USAID*

Monitoring and Reporting: Robert Craver, *Deloitte & Touche*

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Environment: Ronald Greenberg, *Chief, Environment & Natural Resources Division (ENI/EEUD/ENR), ENI Bureau, USAID*

Housing: Dianne Tsitsos, *Chief, Urban Development & Housing Division. (ENI/EEUD/UDH), ENI Bureau, USAID*

Privatization: Gary Maher, *EUR Privatization Division (ENI/PER), ENI Bureau, USAID*

Field Perspective: Barry Primm, *Energy & Environment Officer, USAID/Almaty*

Energy Implications: Robert Ichord, *Chief, Energy & Infrastructure Division, ENI/EEUD/EI, USAID*

CONCLUDING REMARKS: Robert Ichord, *Chief, Energy and Infrastructure Division, ENI/EEUD/EI, USAID*

Welcome and Perspective on ENI Mission - Thomas Dine, *Assistant Administrator for Europe and the New Independent States (ENI), USAID*

- AID's assistance program in 27 former communist societies is facing increased scrutiny and skepticism.

- Congress, media, and interested groups around the country are asking what the program is accomplishing. Does it make a difference?

- OMB demands that we use targets and indicators to measure program impact. We must have accomplishments, how our efforts serve U.S. interests, and show a functioning system in place by the time the Congressional Hearing season hits full stride in March.

- Energy is the lifeblood of any independent, industrial society. Yet these former communist societies' energy consumption is 3 to 4 times that in the West for the same unit of production.

- AID's energy programs is focused on energy efficiency, power sector restructuring, and nuclear safety. We must show results/significant accomplishments in each of these areas.

- The potenital for energy efficiency is large, but progress has not been as rapid as expected.

- Energy and power sector restructuring are ke to these countries conversion to market economies. Poland has taken inportatnt steps tward a more competative power system. We are supporting a major Joint Energy Alternative Study in Russia, which is charting directions for the future of the Russian power system. While in the Ukraine, a radical restructuring of the power system is beginning and is linked with a broader G-7 energy initiatives.

- There are significant commercial trade and investment opportunities in the energy efficinecy and power markets in the region. USAID, through its energy efficiency demonstration program, helped introduce Armstrong, the world's largest producer of steam traps, to the Central Europ market three years before they would have entered on their own.

- Nuclear safety measures are critical for the West as well as our NIS and CEE collaborators.

- Funds are going down. We must measure progress of all our programs and I challenge you to identify the bottom 15% of the poor preformers and begine to end these programs.

- If we suceed in ouir energy programs, then the broaden goal of economic reform will be achieved.

Overview of Economic Reform in the New Independent States (NIS), Ambassador Thomas W. Simons, Jr., *Coordinator for U.S. Assistance to the New Independent States, State Department*

- The traditional Soviet model consisted of centrally controlled, hierarchical structures. In no sector was this traditional model more attractive than in in the energy sector, an "engineers' paradise" where cost was not a consideration. Yet it is obsolete, low performing and in desperate need of reform. The energy sector is about the most inefficient in the world, and has become one of the world's most dangerous and polluted environments.

- This characteristic pride in energy sector accomplishments now has transformed into a mood where pessimism, fear of change and an exaggerated fear of unemployment prevails. In no sector is the instinct of preservation stronger than in the energy sector, particularly Russia's Nuclear Power Ministry.

- Energy is a sector where you can get huge payoffs for relatively low investment. The sector is geared to perform, with a strategic alliance possible of traditional technocrats and reformers.

- The assistance program's task is to "kick-start," not to last for the duration. It must leverage international resources and attract private sector investment.

- U.S. assistance is going through three phases:
  - 1992-93, was the humanitarian stage of U.S. assistance, with 5/6th of the resources going for this purpose.
  - 1994, emphasized a massive technical assistance program, with $106 million for energy -- focused on reform.
  - Next will be direct support for trade and investment.

- The program is going quickly, is experimental, and some projects may not work.

- Funding is uncertain, and the program will end too soon -- when the job isn't yet done. All we can do is show it can be done. It must be turned over from U.S. assistance to trade and investment.

- It is charged that we are continuing to support central control structures by helping to modernize without enough reform. We must maintain our reform efforts as paramount. There will have to be a process of pruning and dropping programs that don't work.

- All U.S. assistance must support the President's No. 1 foreign policy - to form a strategic alliance with reformers in the NIS.

- An unresolved issue: should technical assistance and trade & investment occur simultaneously or sequentially?

- Don't lose heart. This program is at the heart of history. Our efforts will change the world and defend U.S. interests.

Overview of Economic Reform in Central/Eastern Europe (CEE), Ambassador Ralph Johnson, *Coordinator for East European Assistance, State Department*

- Our targets are 1) restructuring, 2) privatization, and 3) growth of the private sector independently of privatization.

- Restructuring and the Enterprise Funds (which alone are 1/3 of the program in CEE) are the centerpiece of the U.S. assistance program.

- Privatization is difficult:
  - the number of enterprises sold off is too low;
  - privatization, by definition, is often seen as a loss to the national patrimony;
  - loss in employment and associated social benefits;
  - lack of experience/laws in how to hold boards and managers accountable for their stewardship;
  - lack of legal tools (bankruptcy law, conflict of interest regulations, etc.)

- However, the development of new, private sector companies, particularly small activities, has eclipsed privatization, with almost all growth in employment, output and exports; in Poland, for example, this now accounts for more than 50% of GDP.

- Some areas of U.S. assistance are now reaching fruition and/or closure: functionally, e.g., Treasury tax advisors and banking; and entire country programs such as the Czech Republic, Estonia, and soon Slovenia.

- In Poland we now are emphasizing social sector reform in which huge resources are invested. Yet the size of our investment is small, because our goal is to help the Poles manage this section more efficienctly, not to underwrite their costs.

- We must keep our goals and vision clear, but be realistic in our expectations. G-24 was not successful in coordinating donors, and is increasingly less successful as a fund raising mechanism. The U.S. now is increasing emphasis on working with the World Bank and the European Union (EU) to look at where we can cooperate bilaterally.

- The CEE countries want to join the EU, some NATO as well. The EU is focusing on developing infrastructure and on harmonization of laws. We need to be alert and to protect access by U.S. companies as this process continues.

- There is increasing skepticism in the U.S. about assistance programs. We are not yet done, yet we will not be able to achieve all that we want. We need to work harder to explain and justify what we are doing, emphasizing that this is a time-limited program.

THE CZECH REPUBLIC
ON THE WAY TO A SUCCESSFUL TRANSITION TO
A MARKET ECONOMY

I am pleased to be here to describe the Czech transition and to offer suggestions for possible application elsewhere. However, before I must add a caution: the transformation is still underway. While we plan to phase out assistance by 1997, much remains to be done before then. The United States has already made a great contribution, but it must continue to assist the Czechs in these final years to assure the sustain ability of the transformation. There are many potential obstacles, but if recent history is any indicator, the Czechs will surely succeed.

Let me first give some characteristics of the successful transformation and then discuss the role of USAID, including the AID office in Prague, in this process. I will also underline the critical role of privatization and foreign investment, including the up-coming energy privatization.

At a recent meeting of G-24 ambassadors in Prague, Czech Minister of Industry and Trade Dlouhy reflected on the status of the Czech economy, proudly stating: "Five years ago we had a dream, today it is a reality." While some critics would perhaps take issue with how complete the transformation is in certain sectors, there is no question in my mind that overall, the Czech Republic has turned the corner toward a growing market economy and democracy. More than four years of continuing economic reforms are producing successful results: macroeconomic stabilization, extensive privatization, low unemployment and a balanced budget.Democratic institutions are in place and the governing coalition remains politically popular. Paraphrasing Minister Dlouhy's summary to the G-24 ambassadors, he said: We have completed the transformation and must now focus on rapid economic growth, competing with you, and dealing with the same issues as any other mature market economy.

The Czech transformation has been remarkable for many reasons. However, some of its comparative advantages come from Czech history, including its unique pre-war democratic legacy and an industrial base that had once made Bohemia a leader of European heavy industry. Its central geographic position has surely influenced the volume of investor interest. Its location and beauty also bring valuable tourism, with over 70 million tourists visiting last year, bringing in more than $1 billion.

The favorable initial economic and political conditions have been combined with the sustained vision and discipline of Czech leadership. In contrast to some of its neighbors, the Czech Republic's fervent commitment to economic reform is perhaps unique. Czech citizens have thrice elected a right-of-center coalition. Headed by conservative economist and current Prime Minister Vaclav Klaus, the coalition provides continuity and depth of economic and political leadership, crucial to this transformation. The government retains support because it produced visible change while selectively maintaining public subsidies and slowing reforms in some areas, including energy pricing, rent control, bankruptcy, and restructuring of large industries. Areas still needing improvement are many: Corporate governance, bank regulation, capital markets, energy, housing, social welfare support and environmental conditions must all be improved in coming years for the economic growth to continue.

How have we contributed to the Czech success? The United States has been providing targeted, demand-driven assistance throughout the transition process. We have been responsive to the strategy and implementation of Czech reforms. When I arrived in Prague in the fall of 1991, we struggled to identify and monitor close to 300 assistance activities in the Czech Republic. Since then we have narrowed the focus of USAID resources to some 60 activities in key areas. Assistance in privatization, banking reform, municipal finance and development, and development of democratic institutions play pivotal roles in the overall economic reform process. Other assistance projects, though smaller in resources, produce tangible results, especially in the environmental and energy sectors, telecommunications, and management training.

Despite a complex structure for assistance mandated by the SEED Act, the USAID Office in Prague provides flexible and responsive support within a dynamic reform process. our effectiveness is mainly due to the significant role granted to the field office; the relatively quick start of assistance in 1991; the decision to work at the republic level; the use of the Central and Eastern European regional projects and excellent U.S. interagency coordination developed and supported by the Embassy.

Staff began work in Central and Eastern Europe in 1991 with almost no language skills or experience in the region, and without an administrative foundation or a network of professional relationships. From this start, we built a successful program through our commitment to cooperate with Czech counterparts and to target timely assistance to areas of highest priority to the Czech government. That meant that we have had to be flexible in our response and at times to modify our view of what priorities should be. The Czech government early on made it very clear that they had already defined a program for reform and didn't need or want broad policy assistance. While the notion that policy reform should precede programmatic assistance remains a valid basis for structuring USAID assistance, policy reform in the Czech Republic sometimes followed program assistance. So we minimized our involvement at the macro-policy level, tailoring any assistance to the implementation of reforms most important to the Czech leadership. This is not to say that we haven't influenced policy, it is just that it was in response to a specific Czech request.

The Government and Parliament continue to face a large policy agenda. Sometimes, our sense of importance must give way to a more urgent need for law and regulatory reform. In this way, the transformation was and is Czech, again emphasizing our support role. And in some instances, the need for a law or regulation was not apparent. Two years ago we raised concern about the lack of telecommunications regulation as a hindrance to privatization and foreign investment, but got little response. Now, however, drafting a tariff policy for telecommunications has become a Czech priority because of its privatization program and we are now assisting them. Until the Government became committed to telecommunication privatization, regulation and a tariff policy were not critical.

Another lesson learned is the importance of focusing resources outside of the capital city. Initially our programs focused on serving the Czech Government and institutions in and around Prague. Much of our assistance is now directed to districts and municipalities outside of Prague. The recently established municipal infrastructure finance fund, public administration, democracy network and health programs are targeting assistance to communities outside of the capital.

Privatization is the major achievement - one that offers at least in part a model to many other countries. The first wave of large scale privatization, completed in 1992, sold some 2,000 state owned enterprises with book value estimated at $20 billion through direct sales, auctions and a voucher system. When then Finance Minister Klaus proposed voucher privatization, critics including the EBRD and World Bank, assailed it as unworkable. Despite this skepticism, Klaus implemented the plan, which was the first of its kind in Central Europe. Through vouchers, the Czech Republic transferred nearly half of the assets for sale in large-scale privatization to private citizens virtually free of charge. For less than one week's average salary of $35, any adult citizen could buy a book of vouchers redeemable for stock in private firms. Seventy-five percent of eligible citizens participated, allocating their voucher points directly to firms in return for shares, or to one of hundreds of private investment funds. The value of shares were determined by investor demand and a company's assets. The voucher program was even more popular than the government had hoped, providing immeasurable political capital to Finance Minister Klaus and his Civic Democratic Party during the 1992 electoral campaign. The program truly had the Czech citizens buying into the economic transformation, literally and philosophically.

A second wave of large-scale privatization began in late 1993 and was completed at the end of 1994, with nearly 1,000 additional enterprises sold through vouchers, public tenders and direct sales. Sales from both waves of large scale privatization are expected to privatize 80% of state assets, an astonishing achievement in less than three years.

The Czech Republic's extensive and rapid privatization succeeded because the government was willing to forego additional state revenues and foreign investment by distributing over half of the shares in large scale enterprises through vouchers. As a result, a vast majority of the economy is in private hands. The extent that new owners exercise their management rights is debated. The majority of voucher shares are actually held by investment funds, whose representatives sit on supervisory or executive boards of many firms. The management of privatized enterprises are beginning the long process of restructuring. The Ministry of Industry and Trade and the National Property Fund have assumed management of some fifty of the country's largest and most indebted firms to oversee their restructuring.

Throughout the privatization process, the United States has provided key assistance with an advisory team of investment bankers, auditors, and lawyers making the process fair and transparent. Keeping in mind the client is the Czech Government, the team has sat beside their Czech colleagues as they negotiated with foreign investors. The result of $17 million in assistance? Over 120 completed deals, with commitments of close to $2 billion and 300 times the cash value originally offered by investors. The significance of this team's impact cannot be overstated. And last year, the Czech Government asked that the same team help the Ministry of Industry and Trade address the restructuring of the complex large industries such as the giant steel plants and energy utilities, which the team has begun to assist and will continue through 1995.

When we talk of the Czech success, foreign investment has played a critical role. And the success of U.S. investment in the Czech economy can be added to the accolades to the Czechs and USAID office. According to Czech Invest, since 1992, U.S. businesses committed $1.2 billion as testimony to the future of the Czech economy. U.S. investments crowded out the Germans' $1.1 billion, and the French's $G5G million. With the major energy and telecommunications tenders coming up this year, that trend could well continue. And the recent passage of a rigorous procurement law offers U.S. bidders an open and competitive process for supplying goods and services to all levels of Czech governments.

Taking all of these elements together, the Czech situation is truly remarkable. But I have cautioned numerous times that the transition is still to be completed.

Which brings me to the energy sector. As in every country, the Czech energy sector is a linchpin to the country's economic growth. Unfortunately, until now the energy sector in the Czech Republic has suffered from a lack of a consistent national policy for its development. Massive foreign investment is needed to bring it up to world standards and to clean up its production. The necessary investments have been slow in coming for several reasons. Among the most important is related to tariffs where the Czech government moved rapidly to bring electricity prices for industry to world prices but have restricted the price for households to half of world prices. A second constraint has been the conservative economic policies limiting the state guarantees and therefore minimizing the role of international financial institutions such as the World Bank. Only late last year did an energy law pass that gives a skeletal framework on which to base investment decisions. The regulatory framework will be hotly debated throughout this year as well as tariff issues, on which the Czech Government is expected to make some decisions in 1995.

Despite the murky regulation and tariff situation, the Czech government plans to move forward with partial privatization of at least some of the energy sector. About 26% of the Czech power monopoly, CEZ, will be privatized by vouchers, some 71% will go to the National Property Fund, and 3% will be reserved for the Restitution Investment Fund. By 1998, at least part of CEZ still owned by the Fund should be privatized, but how great a role the state will allow for foreign investment remains unclear. Nor is it clear how far or how quickly the government will go in deregulating utilities or permitting energy pricing to reflect actual costs, including returns on substantial capital investments. Approximately 15% of each energy distribution companies will be privatized through vouchers, 20% to foreign investors and remaining 65% to be held by the state.

On the production side, there have also been some unsettling events in 1994 related to the privatization of two large Czech refineries. After seeming to have agreed to a joint venture with a foreign consortium, the Czech Government unexpectedly withdrew its approval in favor of the so-called "Czech Way," in which ownership stays with domestic companies. After much public debate, the International Oil Consortium seem again to have the government's approval, with the total value of assets offered to be privatized estimated to be $180 million.

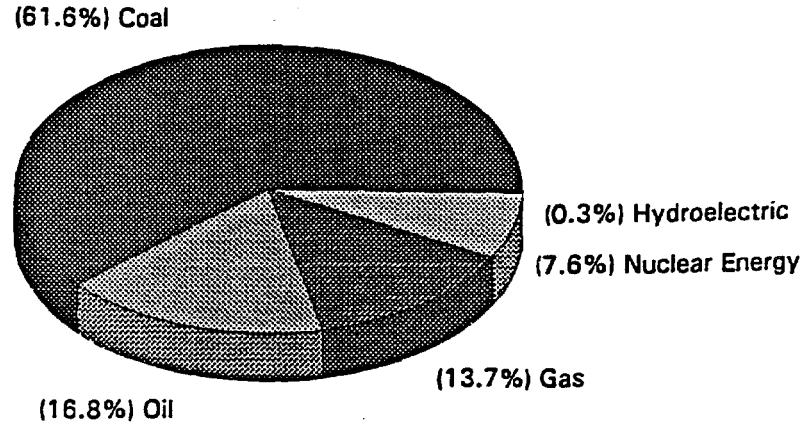
Major challenges for reform remain. But the Czech government has achieved macroeconomic stabilization and low unemployment while privatizing most of the economy and maintaining public support for reform. Just imagine an economy that has flipped from 98 percent state control to 80 in private hands in less than five years! Such a record is unmatched in Central Europe or the former Soviet Union.

In closing, I must commend the Czech people, their leaders and the fine AID staff. The Czech transition is really remarkable and we have a lot to be proud of in the support that have provided.

Thank you.

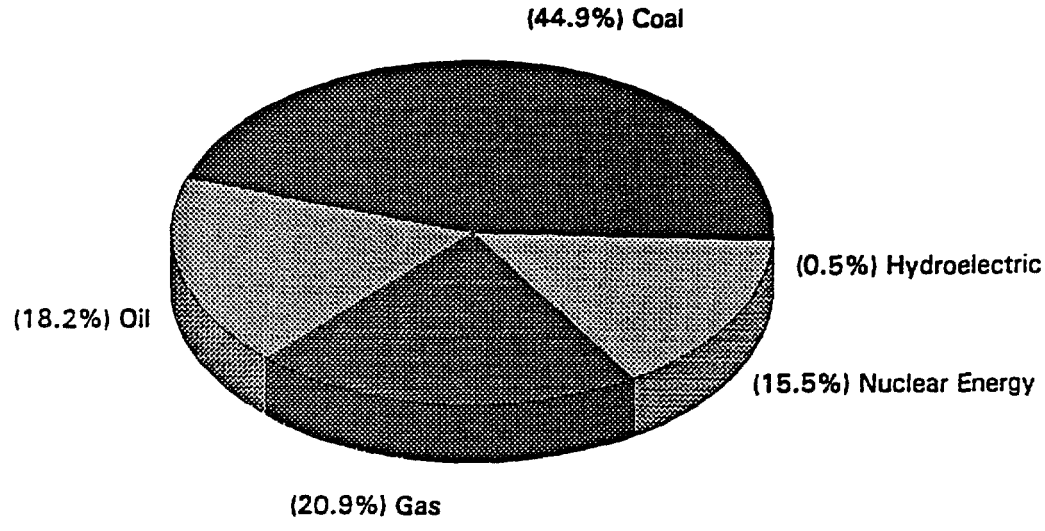
Energy Balance of the Czech Republic in 1993

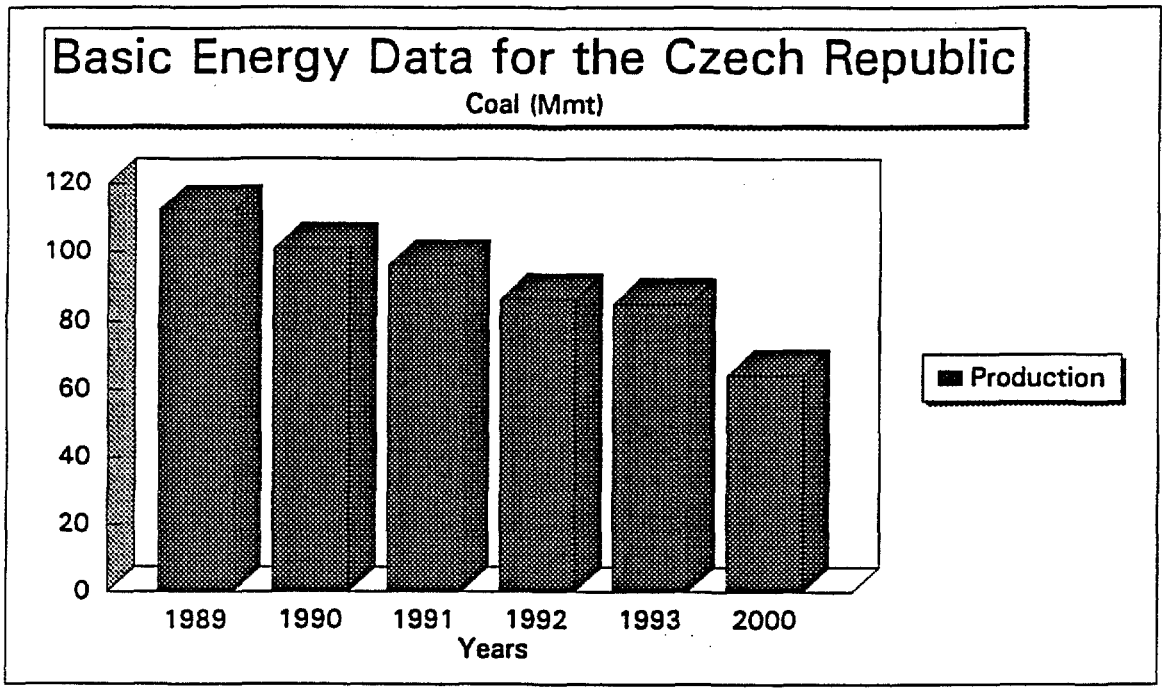
Primary Energy Sources (mtoe)

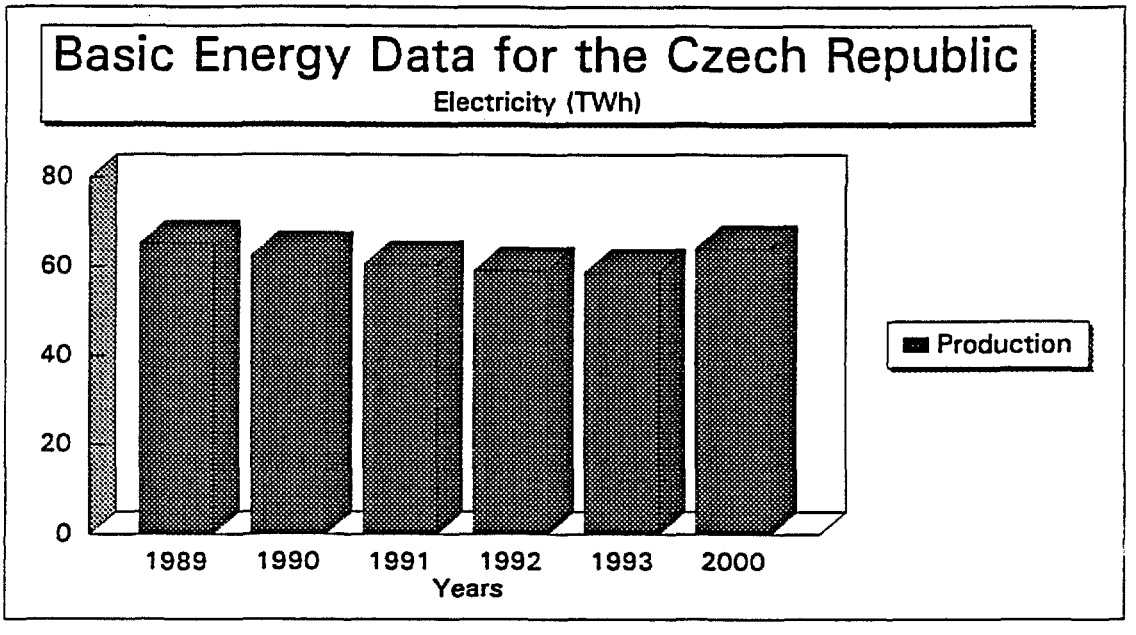


Energy Balance of the Czech Republic in 2000

Primary Energy Sources (mtoe)




Basic Energy Data for the Czech Republic
Coal (Mmt)
120
100
80
60
40
20
0
1989
1990
1991
1992
1993
2000
Years
Production


Basic Energy Data for the Czech Republic
Electricity (TWh)
80
60
40
20
0
1989
1990
1991
1992
1993
2000
Years
Production

Basic Energy Data for the Czech Republic

	1989	1990	1991	1992	1993	2000	%Change 1989-93
Coal (Mmt)							
Production	112.1	100.9	96.1	86.5	85.2	64.5	-24
Net Exports	14.5	11.5	9.8	11.4	6.8	5.2	-53
Consumption	97.5	91.6	86.9	76.9	75.8	59	-22
Gas (bcm)							
Production	0.2	0.2	0.2	0.2	0.2	0.2	-
Imports	6.4	5.9	6.8	6	6.9	10	8
Consumption	6.2	6.5	6.2	5.9	6.2	10	-
Oil (Mmt)							
Production	0.05	0.05	0.07	0.08	0.07	0.07	40
Net Crude Imports	8.7	7.1	6.3	6.6	6	*	-31
Refinery Output	7.1	6.6	6.2	6	6	*	-15
Product Consumption	9	7.9	6.9	7	7	*	-22
Electricity (TWh)							
Production	65.1	62.5	60.5	59.1	58.7	64.1	-10
Net Exports	2.8	0.7	2.5	3	2.1	3	-25
Consumption	62.4	62	58	56.1	56.6	61.1	-9
Total Demand (mtoe)	33.5	31.7	29.2	28.1	27.6	27.9	-18

OBJECTIVES OF THE USAID ENERGY PORTFOLIO

USAID/RUSSIA MISSION STRATEGY STATEMENT:

STRATEGIC OBJECTIVE NO. 1: To foster the emergence of a competitive, market-oriented economy in which the majority of economic resources are owned and managed privately.

--Establish an economic environment (policies, laws, systems, and institutions) which supports Russia's transition to a free market economy.

--Expand private sector activity and support enterprise development in Russia.

--Promote sustainable use of natural resources.

STRATEGIC OBJECTIVE NO. 2: Support the transition to transparent and accountable governance and the empowerment of citizens through democratic political processes.

--Strengthen the mechanisms and institutions of civil society in Russia. Includes developing fair and competitive political processes, strengthening the independence of the media, and supporting active participation of citizens and non-governmental organizations (NGOs) in political and economic life.

--Help put in place laws and legal institutions which support democratic and market-oriented principles.

--Facilitate decentralization appropriate to a market society through strengthening local governments.

STRATEGIC OBJECTIVE NO. 3: Assist Russia's transition to fiscally sustainable, market-compatible social systems with appropriate public and private sector roles.

--Improving sustainablity of social services.

--Supply limited assistance to targeted groups in need during the transition. Includes agriculture, PVO partnerships, maternal and child health, housing subsidies, disaster.

PRIMARY OBJECTIVE OF USAID/RUSSIA ENERGY PROGRAM:

U.S. program is focussed on supporting Russia's efforts to put into place a restructured energy sector (with particular focus on electric power), to create a revamped policy framework (particularly for market-based energy pricing), and to develop alternatives to unsafe nuclear power.

ASPECTS OF THE USAID/RUSSIA ENERGY PORTFOLIO

Movement toward a market economy has resulted in less direct governmental support for the energy sector as a whole. Reform measures target issues of:

--Restructuring of electric power system to attract investment to maintain, upgrade and expand aging electric utility.

--Identifying alternatives to existing unsafe nuclear generation and preparing methodologies for least cost investment options.

--Orienting energy producers and consumers toward energy efficiency measures with the introduction of new and improved technologies, and efficiency practices.

--Introducing a tariff setting mechanism to reach system marginal price levels in electricity, oil, gas and coal.

--Assisting the coal industry with restructuring leading to a more efficient subsector.

ACCOMPLISHMENTS AND LESSONS LEARNED

Thus far, U.S. and Russian experts working together have:

* Conducted a Joint Energy Alternatives Study to identify cost-effective capital investment options for the future electric power industry;

* Demonstrated efficiency improvements in key energy-using facilities such as urban district heating systems;

* Prepared four prefeasibility studies, one of which is under consideration for World Bank investment;

* Prepared a legal framework for a restructured electric power company;

* Established the formation of three Russian-U.S. gas company partnerships;

* Developed the basis for commercialization of the oil and gas industry, in studies leading to major World Bank and European Bank for Reconstruction and Development support to these industries;

* Demonstrated cooperative labor/management approaches to improved coal mine safety practices; and

* Provided major financial support for importation of modern, efficient U.S.-source energy and environmental technology.

FUTURE FOR THE ENERGY PORTFOLIO

* In the energy sector, U.S. assistance will focus, over the next few years, primarily on restructuring Russia's electric power system and preparing it for significant private investment in modern generation and transmission facilities.

  --Work will continue on a legal framework for this restructuring. By 1998, new legislation will be in place, the transition process will be sufficiently advanced to be irreversible, and major commitments of investment capital will have been made by the World Bank, European Development Bank and private sources.

  --Parallel efforts to promote nuclear safety will likewise continue through 1998.

  --Key to the success of these efforts will be Russia's continued commitment to reach system marginal price levels for electricity tariffs, which are now at about 35% of what are considered to be market prices in Russia, and to achieve acceptable levels of payment compliance among major users.

  --Application of energy efficiency interventions as an integral approach to sustained resource use.

* While the centerpiece of the energy portfolio will be the power subsector, coal, oil and gas cannot be totally neglected. Interventions in these areas will concentrate on:

  --Coal-labor management relationships with a shift in program emphasis on other economic activities in restructured coal areas.

  --Oil transport and pricing issues, working with the multilateral donors.

HIGHLIGHTS : Richard Hough, USAID Romania

1. Why? - largest petroleum industry; most energy inefficient; IMPACT ON OVERALL ECONOMIC/INDUSTRIAL RESTRUCTURING.

2. Pricing - problem with volatile FX rates; doing better (link to restructuring process and constraints); cross-subsidies in favor of residential consumers - SOCIAL/POLITICAL ELEMENT OF POWER/HEAT.

3. Legal/Regulatory Status

   - "work in progress" re parliament
   - petroleum law continues to be controversial (initial assistance form USAID/WOrld Bank; too many changes within GOR)
   - energy law - "too many cooks"?
   - role of the World Bank - LINK TO USAID technical assistance - but many other players with different approaches
   - NAMR - regulatory body - NEW !

4. Petroleum - moving (NAMR; refinery restructuring; new concessions?)
   - internationals moving into RETAILING
   - NEED FOR VERTICAL INTEGRATED INDUSTRY -"turn system on its ear"
   - IMPACT OF OTHER RESTRUCTURING PROCESSES - e.g., refinery program relation to petro-chemical focus of Restructuring Agency requirements and link to Financial and Enterprise Sectoral Adjustment Load (FESAL)
   - PRIVATIZATION - restructuring triage; investment from international companies

5. Power Sector - Power and Heat
   - working assumption - restructuring under World Bank/EBRD loan program
   - slow & difficult
     *conflicting model - Electric de France (EDF), SEP (Dutch Utility)
     * social/political sensitivity - from unions to general public
   - Privatization?
   - private power - need for investment finance will drive acceptance of private involvement
   - MARKET ? - national or regional; link to decommissioning of nuclear plants in Bulgaria, Ukraine, Hungary, etc.
   - CERNAVODA #2 - (niclear unit under construction) - GOR push for private money

6. STILL KEY TO OVERALL RESTRUCTURING
   - macro trends good; privatization slow but private sector development surprisingly good
   - since September 1990, 4 out of 10, on a 10 point scale of progress in restructuring

HIGHLIGHTS : Jim Osborn, USAID Ukraine

1. Restructuring and reform of the economy in Ukraine is proceeding fitfully and unevenly. A fractious, inexperienced and anti-reform parliament slows progress on the President's resolutions and fiscal reform commitments.

2. The bright spot in systemic economic reform is the power industry. The Ukrainian authorities are strongly committed to creating a demonopolized, competitive power production market and an independently regulated energy distribution and utility system. The US is the largest donor to this multi-donor supported effort.

3. The coal, petroleum/gas production and processing industries as well as the gas transit facilities are no where near reform, restructuring or privatization commitment, meanwhile, which is one reason not to target very significant aid on them as industries.

4. Therefore, and consistent with injunctions to focus the USAID Ukraine energy program, our assistance concentrates on the power industry : its restructuring, its efficiency and environmental impact, and its security of fuel supply and operational safety.

5. In this, the key is restructuring, including price reform. This is intended to make power (and heat) production, distribution and sales business like -- in turn to be able to attract much needed investment in new plants and facilities that will assure the healthy energy economy in which Ukrainian economic and social welfare and security will depend. A power industry operating in a market and on market principles will be one where energy efficiency, in production and consumption, can and will be pursued as good business. It is also one which will represent major US trade and investment opportunity. In it, too, domestic fuel development and utilization will become economically sound -- and dependence on Russian sources, one hopes, reduced. And in this energy market, close down of Chernobyl generators will become feasible economically and in energy security terms through a combination of energy savings and new production investment enabled and encouraged by the market.

HIGHLIGHTS : John Tennant, USAID Bulgaria

1. After promising beginning economic restructuring has dramatically slowed over the past 2 years in Bulgaria.

2. Bulgaria has been unable to access IBRD FESAL resources and is currently not in compliance with IMF conditions because of poor progress in structural reform, particularly in privatization.

3. GOB is keeping many public companies afloat, including National Electric Company through massive loans from the United Bank which have sparred inflation and driven up mining supply.

4. Key issue for NEK is pricing : NEK has set prices for electricity in the world at 1.5¢ per Kwh vs cash operating cost of 2.0¢ per Kwh.

5. At unreal prices NEK cannot finance safe reliable electricity supply or improve its capacity or modernize. It is being decapitalized and has only 65% of installed capacity currently operational. Breakdowns are likely over the next few months. IBRD is not willing to finance improvements until pricing is rationalized.

6. "Political will" is a key problem. Divisive parliament is not able to approve sufficient increase of rates. Recent elections provide for a socialist majority that has the capacity to approve pending legislation and increase rates. But questionable whether they will increase rates sufficiently. We are concerned that current focus on efficiency and institutional development will have minimal impact without tariff reform.

7. USAID/Bulgaria is reviewing its strategy and will focus and concentrate more around key problems, including a need to have realistic tariffs. We want to work more closely with the World Bank on this issue, including how to cushion impact on poor, with tariff rate study.

OBJECTIVES

* MARKET-ORIENTATION

- INVESTMENT
- COMPETITION

* IMPROVED PUBLIC WELFARE

- INCREASE ENERGY EFFICIENCY
- REDUCED ENVIRONMENTAL RISKS

(ENERGY ACTION PLAN FOR THE CAR, JULY 1994)

MARKET ACTIVITIES

- Legal Policy
  - -Energy Law
  - -Coal Law
  - -Savings Law
- Corporation
  - -0%,10%,90%,100% Private
- Tariff
  - -Fixed Levy
  - -Fuel Prices Up
  - -Collection Up
- Restructure
  - -Investors
- Investment
  - -Bank Groundwork
- Training
  - -Partners/Executives/Region

ENERGY EFFICIENCY ACTIVITIES

- Efficiency
  - -National 25-Year Savings Plan
  - -Cost Efficiency Policy
  - -Market Plan
  - -IMF Funding
  - -Foreign Investment
- Environment
  - -National Environmental Plan
- Coal Sector
  - -Health/Safety Improvement
  - -Efficiency/Use Improvement
  - -Quality Improvement

LESSONS LEARNED

- Coordination is vital
  - -In planning Policy and Efficiency Tasks
  - -With counterparts before the Work Plan is set
  - -With sponsor/IMF community
- Communication continues to be a major problem

IMPACT/BROADER SIGNIFICANCE

- Progress in Kazakhstan and Kyrgyzstan toward privatization is continuing, though slowly.
- The USAID program is making a significant contribution.
- Energy trade between the CAR and with Russia continues to be a critical problem.

ENERGY EFFICIENCY & MARKET REFORM IN THE NEW INDEPENDENT STATES

Armenia

Energy Efficiency in Industry, Buildings, & District Heating

Task 1: Industry Energy Conservation (B&R)
Task 2: Weatherization of Buildings (B&R)

Energy Sector Restructuring and Privatization

Task 3: Power Sector Modernization and Privatization
- Task 3A: Privatization, Regulatory Reform
  - Task 3A.1 Independent Private Power (RCG/HB)
  - Task 3A.2 Ministry of Energy & Fuels Management Information System (RCG/HB)
  - Task 3A.3 Regulatory Body Support (RCG/HB)
  - Task 3A.4 Utility Corporatization (RCG/HB)
  - Task 3A.5 Energy Legislation (RCG/HB)
- Task 3B Hydro Rehabilitation (B&R)
  - Task 3C: Utility Management Improvement (USEA)
  - Task 3D: Energy Training (IIE)

Task 4: Coal Sector Development
- Task 4A: Assessment of Solid Fuel Resources (USGS)
- Task 4B: Fast-Track Coal Mining (B&R)

Critical Commodity and Technical Support

Task 5: Production and Delivery System Repair/Maintenance (B&R)
Task 6: Mini Hydro Turbine Replacement (B&R)
Task 7: Oil/Gas Program (B&R)
Task 8: Inventory Management Improvement (B&R)
Task 9: Emergency Fuel Supplies (USAID/ENI/HR/EHA)
Task 10: Program Implementation Support (IDEA)
Task 11: Alternative Energy (TBD)

ENERGY EFFICIENCY & MARKET REFORM IN THE NEW INDEPENDENT STATES

Georgia

Energy Efficiency and Power Rehabilitation

Task 1: Accelerated Energy Program (B&R)

Task 2: EBRD Loan Preparation - Power Rehabilitation (B&R)

Power Sector Modernization

Task 3: Utility Partnership Program (USEA)

Task 4: Fast-Track Coal Mining (B&R)

Critical Commodity and Technical Support

Task 5: Production and Delivery System Repair/Maintenance (B&R)

Task 6: Program Implementation Support (IDEA)

ACTIVITY	ARMENIA	GEORGIA
PRIVATIZATION	20 LICENSES HAVE BEEN ISSUED TO PRIVATE INVESTORS	UP TO 35 MW OF SMALL HYDRO PLANTS HAVE BEEN PRIVATIZED
	COMMISSION ON PRIVATIZATION HAS AN ENERGY COMMITTEE	PRICES NEED TO BE ANALYZED
	ENERGY AUCTION OF 10% OF YER. CITY GRID	PRE-PAID METER PROGRAM
	US PRIVATE DEVELOPER IS CLOSE TO POWER PURCHASE AGREEMENT	
ORGANIZATION STRUCTURE	MINISTRY OF ENERGY FOUNDED IN 1991	NO MINISTRY OF ENERGY
	STATE MINSTRY	ADVISOR TO SCHEVERENADZE
	ARMENERGO, ARMGAS, ETC.	COUNCIL OF MINSTERS
	YEREVAN CITY GRID	SAKENERGO, SAKGAS, ETC.
PRICING/FINANCING	CLEARING HOUSE MECHANISM	CLEARING HOUSE MECHANISM
	LITTLE OR NO DEBT	$450 MILLION TO TURKMENISTAN
LEGISLATION	DRAFT ENERGY LAW	A REVIEW IS NEEDED
CHALLENGES	REVIEW OF DRAFT ENERGY LAW	
	REVIEW OF REGULATORY FRAMEWORK	
	MIS	
	PRIVATIZATION/CORPORATIZATION	
	IPP/COLLECTION	

Luncheon Speaker: Carlos Pascual, *Deputy Assistant Administrator, ENI Bureau, USAID*

- In implementing our programs, we must make sure that programs in the energy sector have linkages to the broader objectives and sustainability goals of the overall U.S. assistance program.

- The debate is over about slow or fast structural adjustment and liberalization. The countries which moved aggressively are attaining economic growth which is alleviating the pain. Czech Republic - 3%; Poland - 4%; Estonia - 3%. Even Russia is making progress. The services sectors are growing in these countries.

- In contrast, Ukraine last year contracted by 15%, and another 34% in the first quarter of 1994 alone. Bulgaria and others have equally sad reports. These countries are feeling the social pain without the economic benefit and the political benefit of having bottomed out and begun to move.

- There are, of course, mixed stories such as Romania and Hungary.

- Privatization reduces pressures on government budgets. Tools such as small business auctions and case-by-case privatization are important as tools, but are incredibly slow.

- Most effective has been mass privatization as shown in the Czech Republic and Russia where decisions were made to take a market approach, provide opportunities to trade shares, and to register shares.

- This requires many adjustments, in the banking system, price adjustments in every sector, and a recognition that there has been overadjustment in the industrial sector.

- Prices are a major issue and tool. The countries must change their systems to direct subsidies to the needy rather than serving everyone.

- There must be a reasonable regulatory structure.

- The U.S. assistance program needs to concentrate resources on:
  - pricing issues,
  - regulatory issues, and
  - restructuring issues.

- In the energy sector, energy efficiency has been a good entree with recalcitrant governments, but must shift to solving systematic problems. We cannot waste funds on inexhaustible needs.

Russia: David Jermain, *Project Manager, Privatization and Restructuring in Russia, RCG/Hagler, Bailly*

Russian Electric Power Sector Privatization Project: Overview Of Restructuring Efforts

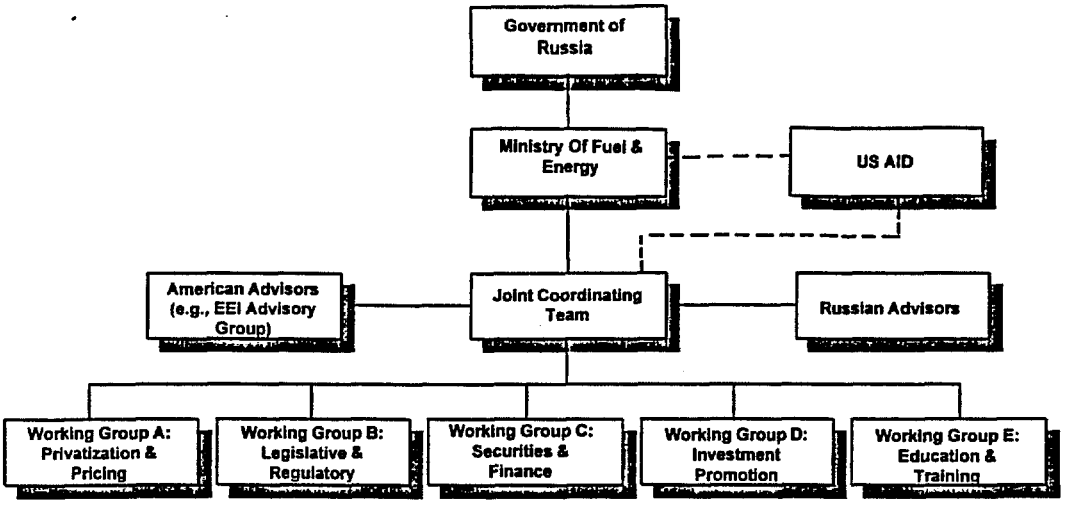
For The Russian Electric Power Sector Privatization And Restructuring Task Of The USAID Project: Russian Energy Sector Institutional Reform

RCG/Hagler, Bailly, Inc.
January 5, 1995

Objectives For Electric Power Sector Restructuring

- **Transform Russia's electric power from a command-based system to a competitive sysem**
- **Stable and reliable electric power system**
- **Ability to access international capital markets to finance the needs of the electric power sector**
- **Affordable power supply**

The Project Is Organized To Report To The Ministry Of Fuel And Energy And To Work Directly With RAO



Specific Results And Lessons Learned

- Results
  - Well defined final structure: vertical disintegration
  - Defining the process of transition
    - Issues of timing
    - Issues of social policy — fairness, safety net
- Lessons Learned: Key Success Factors
  - Don't underestimate the learning curve or time to build acceptance
  - Consistency of players -- consultants, counterparts, government, translation/interpretation
  - Mix of players
    - Qualify your counterparts: Make sure you know who you are dealing with
    - Make sure the process is open enough from the beginning
  - Critical role of government-to-government relations

More Lessons Learned

- Respect the cultural differences
- Be clear about agendas and assumptions — what is each side trying to achieve and where is each side starting?
  - Example: competition vs. financing
- Patience and respect as colleagues
- Infrastructure
  - Communications: group process, conferences, seminars, papers circulated, publications
  - Language
  - Policy process
  - Political

Impact And Broader Significance Of Activity

- Impact
  - Economic recognitions
  - Technological recognitions
  - Legal and political recognitions
  - Cross cultural bridges
- Broader Significance
  - Role of electric power sector in Russia is profound
    - Culturally important
    - Change here can guide change elsewhere
  - Russia is still a role model for many in the NIS

Poland - Power Sector Restructuring

Presentation by Henk Busz
Principal Financial Analyst
Central Europe Department
World Bank

WORLD BANK

LENDING PROGRAM

1. Energy Resource Development Project (1990; $225 mln).

2. Heat Supply Restructuring and Conservation Project (1991; $285 mln), of which:
   - Four loans to 4 district heating enterprises ($190 mln);
   - Loan to commercial bank (WBK of Poznan) ($20 mln);
   - Sector Adjustment Loan to Government ($75 mln)

3. Katowice Heat Supply and Conservation Project (1994; $45 mln).

4. GEF Coal-to-Gas Conversion Project (1994; $26 mln).

Under Preparation

1. Power Transmission Project ($160 mln; est. May 1995)

2. Cogeneration Privatization Project ($120 mln; ready for negotiations since May 1993)

Possible Future Power Projects

1. New Combined Heat and Power Plants

2. Rehabilitation and modernization of power plants

3. Distribution networks with demand side management

WORLD BANK

DESCRIPTION OF RESTRUCTURING ACTIVITY

1. Demonopolization of:

   - Power and Lignite Board
   - Hard Coal Board
   - Regional District Heating Enterprises (DHEs)
   - Polish Oil and Gas Company

2. Restructuring into financially viable units (e.g., 4-5 groups in power generation). Spinning off service companies.

3. Corporatization and Privatization where possible.

4. Energy Pricing:

   - household prices to he at least equal to industry prices.
   - household subsidies for DH to be reduced to 60%

5. Energy Regulatory Framework:

   - Energy Law (open entry; competition)
   - Energy Regulatory Agency

WORLD BANK

OBJECTIVES OF ACTIVITY

1. Implement comprehensive energy sector restructuring .

2. Enhance energy conservation and efficiency:

   - Improved pricing.
   - investments in energy efficient equipment

3. Reduce environmental pollution:

   - through above (#2)
   - environmental retrofits
   - fuel switching to gas
   - clean coal technologies

4. Support privatization of energy sector enterprises:

   - pilot projects
   - policy changes

WORLD BANK

SPECIFIC RESULTS

1. Demonopolization complete, except in oil and gas sector, which remains a monopoly.

2. Restructuring completed only in coal mining sector (71 mines regrouped into 7 holding companies plus 3 one-mine companies).

3. Corporatization (to joint stock or limited liability companies) in:
   - coal mining sector (complete)
   - power sector (transmission and distribution only)
   - district heating sector (about 100 out of 500)

   Privatization only in 6 small district heating enterprises. In context of Cogeneration Privatization Project drafts of the major legal agreements necessary for privatization of power plants (power and heat sales agreements, etc.) were developed.

4. Energy prices now on average 60% of economic level (25% in 1991).
   Coal prices above export and near import-parity levels.
   No more operating subsidies, other than for mines in closure program.
   Central investments, with or without subsidized interest rates, now virtually non-existent

WORLD BANK

SPECIFIC RESULTS (cont.)

Household subsidies for district heating now on average 12% of price (80% in 1991).

5. Draft Energy Law ready for submission to Economic and Social Committee of Council of Ministers (submission tied to energy policy paper).

WORLD BANK

LESSONS LEARNED

1. Ministry of Finance (MoF) is one of the major players.
2. MoF is not willing to provide guarantees to private investors.
3. In situation of overcapacity and acceptable service levels, there is no pressure to privatize.
4. Privatization feared by unions and consumers alike. Also: do not underestimate possible resistance by enterprise management.
5. Most power generators are not interested in competition.
6. Grid Company is introducing power sales contracts and merit order dispatching.
7. Most likely privatization candidates: new CHP plants or poorly run district heating systems.
8. Hard to achieve coordination between Ministries of the Environment, Industry and Finance regarding emission and ambient standards.
9. Close coordination of Bank's policy and lending work with bilateral and multilateral TA indispensable.
10. Increasing role of NGOs in project preparation phase.

WORLD BANK

IMPACT AND BROADER SIGNIFICANCE OF ACTIVITY

1. consumers receive the right (or at least better) economic signals, leading to energy conservation and decreased pollution;
2. distortions in investment decisions are minimized or avoided; and
3. private investment in the energy sector is, in principle, facilitated.

POLAND POWER SECTOR RESTRUCTURING

BY

JOHN L. SACHS
PARTNER
LATHAM & WATKINS

AT THE

AID CONFERENCE
ON ENERGY RESTRUCTURING AND ECONOMIC REFORM

JANUARY 5-6, 1995

WASHINGTON, D.C.

LATHAM & WATKINS

POLAND POWER SECTOR RESTRUCTURING

Objectives

1. Create a legal and contractual environment in Poland which is conducive to the development of private power projects;
2. Teach PSE-SA the basic concepts of project finance and private power;
3. Assist PSE-SA and other governmental entities in the negotiation of the first private power agreements; and
4. Train PSE-SA personnel in negotiating skills.

LATHAM & WATKINS

POLAND POWER SECTOR RESTRUCTURING

Task Description

Phase 1

Prepare a model power purchase agreement which is consistent with the objectives of PSE-SA, the fundamentals of project finance and the requirements of Polish law.

Phase 2

Assist in the negotiation of power purchase agreements between PSE-SA and private power developers.

Phase 3

Advance the negotiations of the various joint ventures with other governmental agencies, including the Ministry of Industry and Trade, the Ministry of Finance and district heating companies.

LATHAM & WATKINS

POLAND POWER SECTOR RESTRUCTURING

Results

Phase 1

Produced model power purchase agreements which were and will be used as the starting point for future negotiations with joint ventures.

Educated PSE-SA personnel with respect to private power issues and contracts.

Phase 2

Assisted in the negotiation of power purchase agreements with five different joint ventures.

Trained PSE-SA personnel in negotiating skills.

Phase 3

Assisted in the negotiation of a steam sales agreement between the district heating company in Krakow and a private developer.

Advised the Ministry of Industry and Trade and the Ministry of Finance on other forms of support required by private power projects.

LATHAM & WATKINS

POLAND POWER SECTOR RESTRUCTURING

Lessons Learned

For private power to succeed:

1. **the utility should determine the power purchase price before initiating discussions with private developers;**
2. **a certain and stable legal and regulatory environment should be created; and**
3. **the Government should adopt a coherent policy in favor of private power.**

AID Conference on Energy Restructuring and Economic Reform

Slovak Power Sector Restructuring

Slovakia: Floyd Davis, *Manager, Power Systems, International Technology & Resources, Bechtel Corporation*

Objectives of the Activity

- Identify critical issues to be addressed by restructuring
- Identify options for restructuring
- Identify pros and cons of each option

Description of Activity

- Conducted in March 1993
- Team- Bechtel, Arthur Andersen, Montana Power
- Interviewed Ministries Economy, Privatization, Finance, Environment, Antimonopoly Office, Slovak Power Co., 3 distributors
- Identified and analyzed options
- Presented seminar

Specific Results and Lessons Learned

Vertical Integration (G &T)

- most regulation required

Holding Company

- ability to isolate projects for investors
- potential for monopolistic behaviour

National Power Grid

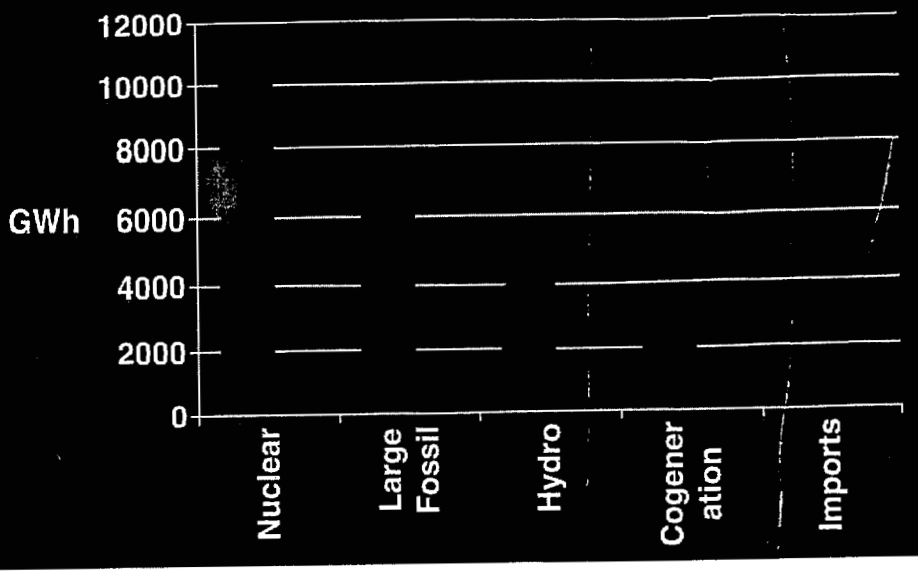
- greatest potential for competition
- practical limitations in 5.5 GW system with 2.5 GW of nuclear

Options and Issues

Vertical Integration
Holding Company
National Power Grid

Attract capital
Increase competition
Improve resource allocation
Empower managers and employees
Facilitate selective privatization.

Generation Mix



Impact and Broader Significance of Activity

- Holding Company structure adopted in principle in mid-93 -- holding company legislation pending
- SEP became joint-stock company November 1994 - 100% government
- Proposals for Mochovce 1&2 completion involve separate entity
- Price reform required for any option to achieve goals

UTILITY PARTNERSHIP PROGRAM

OBJECTIVE

....TRANSFER THE EXPERIENCE OF U.S. ELECTRIC UTILITIES TO

CENTRAL & EASTERN EUROPEAN UTILITIES

.... HELP TO ADDRESS INSTITUTIONAL / MANAGERIAL CHALLENGES

FINANCIAL	ECONOMIC
REGULATORY	RESTRUCTURING
ENVIRONMENTAL	TECHNICAL

USAID CONFERENCE ON ENERGY RESTRUCTURING & ECONOMIC REFORM JANUARY 5-6, 1995

Bulgaria: Eric Haskins, *Program Manager, Utility Partnership Program/CEE, U.S. Energy Assn*

UTILITY PARTNERSHIP PROGRAM

DESCRIPTION

INFORMATIONAL PARTNERSHIP WITH U.S. "SISTER UTILITY"

USEA STAFF-SPONSORED PROGRAMS

ACTIVITIES

EXECUTIVE EXCHANGES

INTERNSHIPS

REGIONAL PROGRAMS

SEMINARS

U.S. CONFERENCES

EXECUTIVE DEVELOPMENT

ADVISORY MISSIONS

UTILITY PARTNERSHIP PROGRAM

PRIORITY ISSUE AREAS

GENERAL MANAGEMENT

FINANCIAL MANAGEMENT

CUSTOMER SERVICES

POWER SYSTEM RELIABILITY

COST/BENEFIT ANALYSIS

PROJECT MANAGEMENT

LEAST-COST PLANNING (IRP)

REGULATORY ISSUES

RATE SETTING

HUMAN RESOURCES

PLANT MANAGEMENT

ENVIRONMENTAL ISSUES

DSM / ENERGY EFFICIENCY

ENGINEERING MANAGEMENT

USAID CONFERENCE ON ENERGY RESTRUCTURING & ECONOMIC REFORM JANUARY 5-6, 1995

UTILITY PARTNERSHIP PROGRAM

RESULTS

- LONG-TERM RELATIONSHIPS DEVELOPED
- MANAGEMENT CHANGES BEING INITIATED THROUGHOUT CEE

CUSTOMER SERVICE CENTER	- HUNGARY
S&P BOND-RATING	- CZECH REPUBLIC
H-R MANAGEMENT POLICIES	- POLAND
STRATEGIC PLANNING	- ROMANIA
INDUSTRIAL CUSTOMER PLANS	- SLOVAKIA
COST-BASED RATE SETTING	- LITHUANIA
COLLECTIBLES REDUCED	- LATVIA
LEAST-COST PLANNING MODEL	- BULGARIA

- LESSONS LEARNED

  RAPIDLY CHANGING PRIORITIES IN EUROPE
  CREDIBILITY OF U.S. SISTER UTILITIES VITAL

UTILITY PARTNERSHIP PROGRAM

IMPACT / SIGNIFICANCE

- PROMOTION OF U.S. ELECTRIC INDUSTRY COMMERCIAL INTERESTS
- MARKET-ORIENTED MANAGEMENT SYSTEMS @ CEE UTILITIES
- CREDIBILITY OF U.S. PROGRAMS -v- EUROPEAN "ASSISTANCE"
- SUCCESSFUL PUBLIC - PRIVATE COOPERATIVE EFFORT
- U.S. UTILITY INDUSTRY CONTRIBUTION - APPROX $2,000,000/YR

USAID CONFERENCE ON ENERGY RESTRUCTURING & ECONOMIC REFORM JANUARY 5-6, 1995

CMP / NEK PARTNERSHIP

Objectives of the Activity

- Encourage and coordinate the exchange of personnel from CMP and NEK so participants may share their experience in the electric industry and improve their capability for resolving energy and management issues

CMP / NEK PARTNERSHIP

Description of Activity

- Seminars
  - Procurement
  - Public Relations
- Executive Exchange Visits
  - Finance
  - Accounting
  - Public Relations
  - Transmission & Distribution
  - Management (Chairman of NEK's Board)
  - Management (President of NEK)
- Loaned Executive
  - Integrated Resource Planning

CMP / NEK PARTNERSHIP

Specific Results and Lessons Learned

- Adaptation of a Corporate Financial Planning Model
- Installation and Training on the IRP-Manager Software
- Development of an Employee Newsletter

CMP / NEK PARTNERSHIP

Impact and Broader Significance of Activity

- Ability to do Financial Forecasts for five year period
- Improved ability in Integrated Resource Planning
- Better understanding of Management/Board relations
- Understanding of competitive bidding
- Utility Consultancy Program
  - Integrated Resource Planning
  - Finance
  - Independent Power
  - Environmental Compliance

Restructuring in the Baltics as Seen Through the Eyes of the Baltic Regional Energy Planning Program

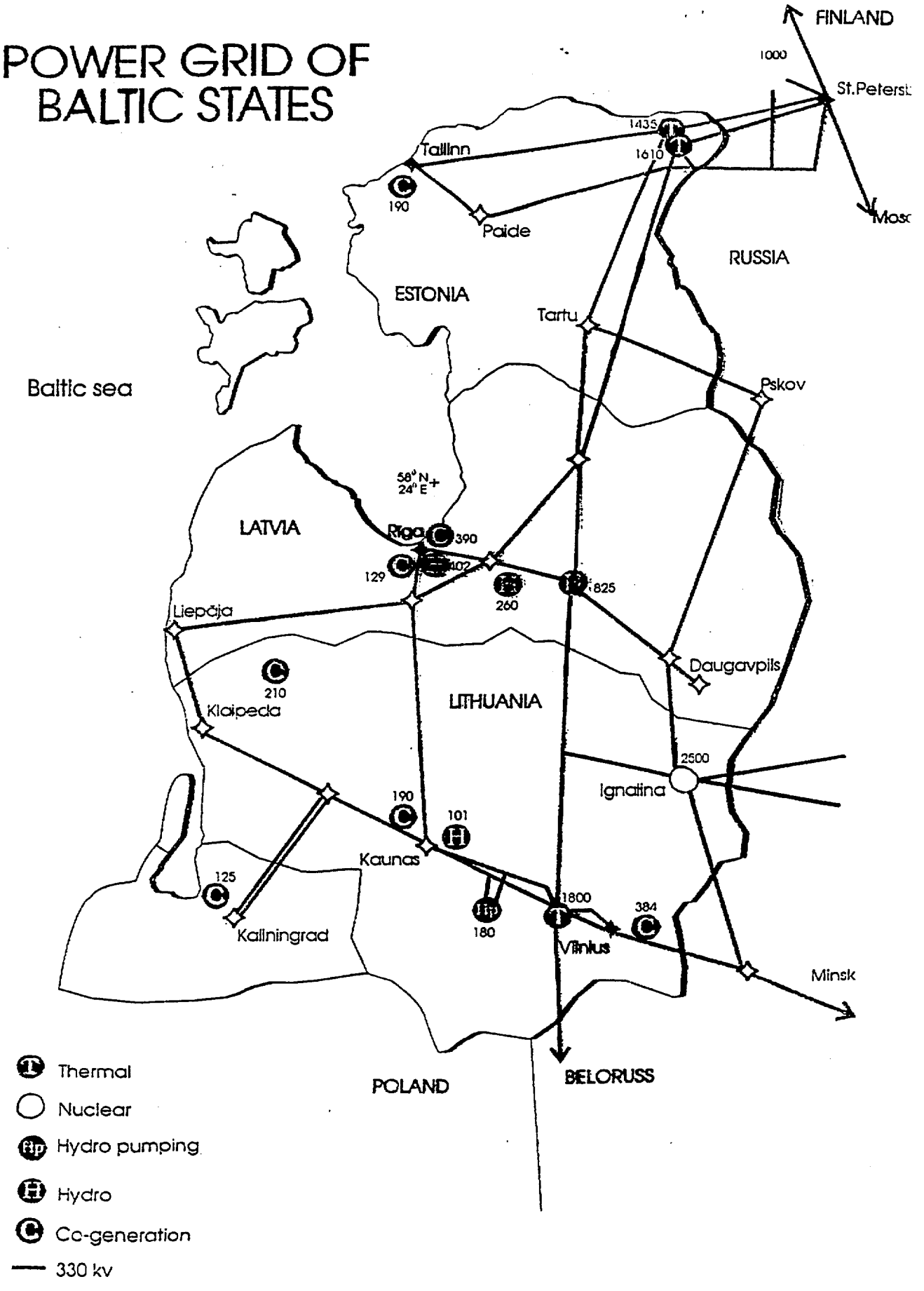
AID Conference on Energy Restructuring and Economic Reform in Central/Eastern Europe and the New Independent States

January 5-6, 1995
Reston, VA

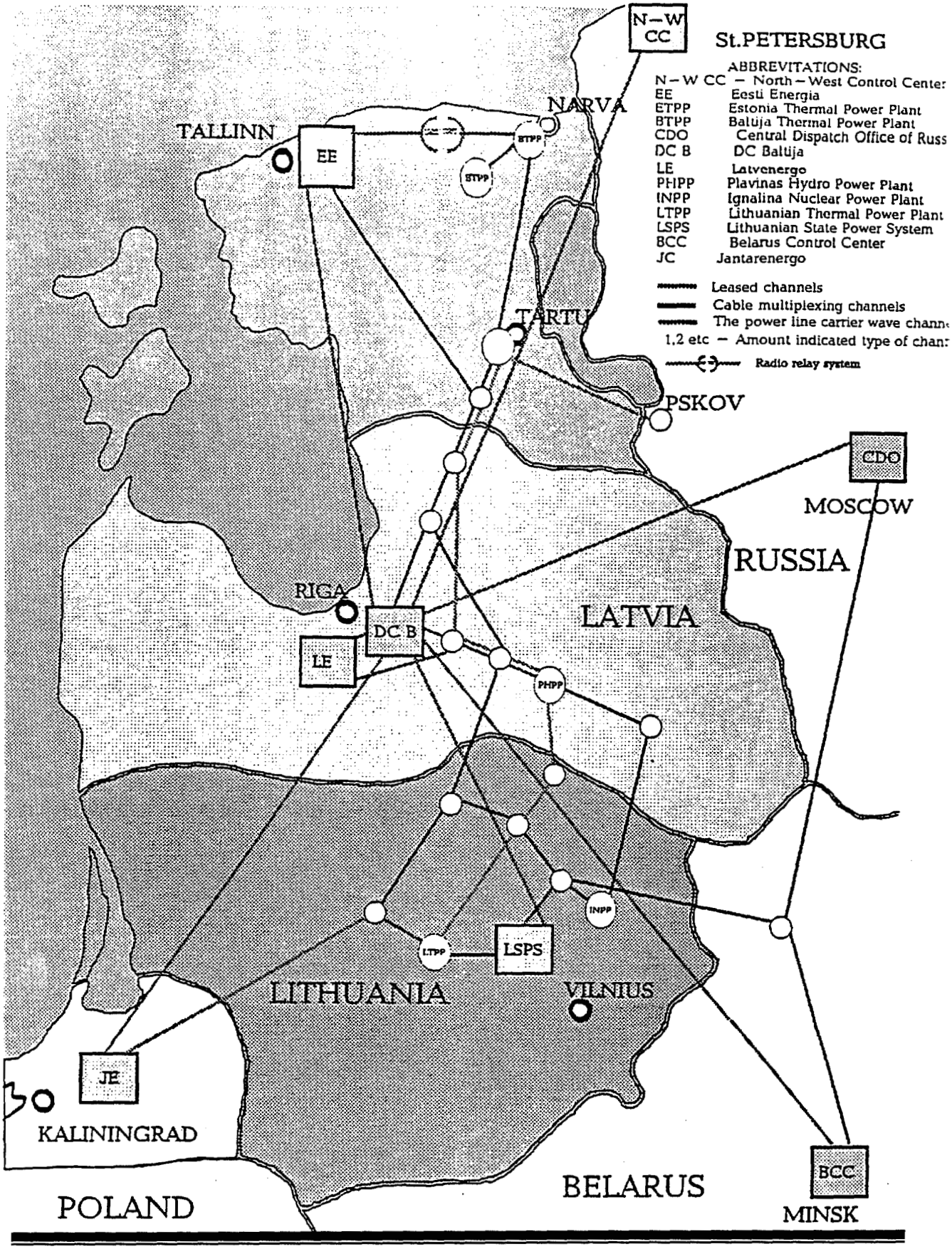
Presented by:
J. Charles Smith
Project Manager
Electrotek Concepts, Inc.

Restructuring in the Baltics

- **Background/Objectives:**
  - **Respond to joint request from the three Baltic Energy Ministers for assistance in developing a regional energy planning process**
  - **Recognize the previous Energy Master Plans developed with IVO and Vattenfall (and their limitations)**
  - **Provide tools and training which will eventually allow the three countries to develop their own plans**
  - **Help establish mechanisms to build confidence, trust, and cooperation in an international project with strong, national interests represented, with different approaches to and at different stages of restructuring.**
- **Description of Activity:**
  - **Assess current capabilities and resources for IRP**
  - **Evaluate available models and data requirements**
  - **Recommend and procure appropriate hardware and software**
  - **Provide training by developing base case and alternatives**
  - **Adopt the process to the needs of the Baltic States in a restructured environment**


POWER GRID OF BALTIC STATES
FINLAND
1000
St.Peterst
1435
1610
Tallinn
190
Paide
RUSSIA
ESTONIA
Tartu
Pskov
Baltic sea
58° N
24° E
LATVIA
Riga
390
129
260
825
Liepāja
Daugavpils
210
Klaipeda
LITHUANIA
2500
Ignalina
190
101
Kaunas
125
Kaliningrad
180
1800
384
Vilnius
Minsk
POLAND
BELORUSS
Thermal
Nuclear
Hydro pumping
Hydro
Co-generation
330 kv

DC BALTIJA'S COMMUNICATION NETWORK'S ARCHITECTURE



RESTRUCTURING IN THE BALTICS

Load

	Peak Demand (MW)	Total Energy (Twh)	Exports (Twh)
Estonia (1992)	1514	11.8	3.4
Latvia (1992)	1220	7.9	-4
Lithuania (1993)	2160	14.1	2.7

Generating Capacity (Mw)

	Estonia	Latvia	Lithuania	Total
Thermal	3362	545	2623	6530
Hydro		1502	106	1608
Pumped Hydro			600	600
Nuclear			3000	3000
Total	3362	2047	6123	11538

ESTONIA: A SUCCESS STORY

Economic Indicators, 1994	Estonia	Russia
GDP, % change from 1993	6	-16
Budget Surplus, % GDP	2.2	- 9.8
Consumer Prices, % increase	39	209
Interest Rate, % p.a.	16	242
Average Monthly Wages	$155	$ 88

ESTONIA:
RESULTS AND LESSONS LEARNED

- Used financial conservatism and economic liberalism
  - Budget surplus in 1993 and 1994
  - Central bank forbidden by law to lend to government
  - Government pushed unprofitable concerns into bankruptcy
  - Introduced free trade
  - Liberalized prices
  - Abolished most subsidies
  - Fair and modern tax system (flat 26% income tax)
- Foreign trade with the FSU decreased from 90% in 1991 to 40% in 1994, with an expectation of 20% in 1995
- Privatization now 90% complete
- Energy Sector to be addressed in 1995

STATUS OF RESTRUCTURING

	Eesti Energia	Latvenergo	LSPS
Joint Stock Company	Yes	Yes	Almost
% State Ownership	100	100	100
Is DH Included?	Yes	Yes	Yes
Daughter Companies?	Yes	Probably	Yes
Privitization?	Yes	Yes	Yes
Consumer Prices	**Price Committee**	**Ministry of Economy**	**Energy Pricing Council**
Regulatory Law	No	No	No
Deregulation of Gen	Limited	Limited	Limited
Initial % State Ownership after privatization	?	?	90%
Revenues = Operating Cost			
Electricity	Yes	Yes	Yes
DH	No	No	No

RESULTS AND LESSONS LEARNED

- While international cooperation is preached at the ministerial level of government, it is not so easily achieved at the working level of state enterprises.
- Reaction to Communist legacy has led to strong nationalistic pride and desire for independence in all spheres, including energy.
- Communist legacy has stifled self-initiative, independent thought, and risk taking.
- While there is a strong desire to be independent from Russia, there are conflicting desires to maintain close relations:
  - Baltics were previously part of the Northwest IPS of the USSR
  - Natural tendency to maintain old contacts
  - Russia still controls system frequency
  - Baltics have not yet been enthusiastically embraced by the EU, which is necessary for future security.
  - Issues on Treaty of Tartu, missile base, Kaliningrad access and minorities must be resolved.
  - Concerns are intensified by recent events in Chechnya.
- Lack of a common language, laws and currency further aggravates the situation
- At the working level, there is limited understanding and experience with techniques for economic analysis and evaluation of alternatives.

RESULTS AND LESSONS LEARNED

- Central planning has led to non-optimum energy solutions on a country-specific basis
  - Estonia with oil shale plants
  - Lithuania with Ignalena
  - Latvia with hydro
  - Oil and gas imports from Russia
  - Regional excess generating capacity
- Lack of tradition of negotiation and compromise leads to distorted view of national self-interest:
  - Estonia wants Latvian excess hydro energy below cost
  - Latvia wants Lithuanian nuclear energy below cost
  - Lithuania wants Estonian capacity below cost
- Lack of sophisticated transmission planning programs which include transmission constraints on economic dispatch, incremental loss analysis, and optimum reactive power dispatch hinders energy contracting
- Need for energy metering and communications at cross-border tie lines
- Need for primary and secondary regulating ability on turbine governors
- Need for a consensus on timing and location of UCPTE synchronous electrical system boundary. Consider including the Baltics by 2000, not post-2010.

IMPACT AND BROADER SIGNIFICANCE

- The energy system is recognized as a strategic asset.
- Recognition of the need for a central coordination function by the three small countries in supporting an international organization like DC Baltija is a positive development.
- Tight budgets and domestic priorities create great tensions for three small countries in supporting an international organization like DC Baltija
- While the need is recognized, the role is not well defined. Staff reduced from 300 to 100 in 4 years. Significant national differences over responsibilities to be assigned to DC Baltija. Legacy of Central Control dies slowly.
- U.S. participation in process brings credibility and objectivity.
- Developing realization that limited financial resources do not allow duplication of available regional energy resources on a national basis-cooperation is required.
- Joint discussion of costs and benefits of joint investments in Ignalena upgrade, Elektrenai rehabilitation, oil shale plant refurbishment, and new coal plant construction is beginning.

Bilateral Steering Committee for the Kraków Program:

United States:

- Howard Feibus, USDOE
- James Lacey, USDOE
- Leonard Rogers, USAID
- Robert Ichord, USAID

Poland:

- Jerzy Wertz, Office of Environmental Protection for the Kraków Province
- Stanislaw Kaminski, Ministry of Environmental Protection, Natural Resources, and Forestry
- Jan Friedberg, Deputy Mayor of Kraków
- Krzysztof Gorlich, Deputy Mayor of Kraków

Krakow Low-Stack Emissions Sources

Boilers:

Operated on Gas or Oil		673
Operated on Coal or Coke		2,254
	Total	2,927

Total Design Thermal Capacity 1,052 MW(t)

Stoves: 100,000

Spreadsheet Analysis developed to compare:

capital and operating costs	vs	emissions of --
		• particulates • SO_2 • CO • hydrocarbons

for various equipment and fuels alternatives for reducing emissions

Phased Approach:

- Phase 1: Information Gathering
- Phase 2: Public Meetings
- Phase 3: Cooperative Agreements/Commercial Ventures

Phase 1: Information Gathering

- Testing
  - Combustion Tests in Boilers and Stoves
  - Tests of Energy Efficiency Measures in Apartments
- Engineering Analysis
  - Costs Developed for Alternatives
  - Feasibility Studies
- Incentives Analysis
  - Financial incentives
  - Regulatory incentives
- Public Relations

Phase 2: Public Meetings

- June 1992 in Chicago, IL, and Washington, DC
- November 1992 in Krakow, Poland

Five Areas of Interest:

1. Conservation and Extension of District Heating

2. Replacement with Natural Gas

3. Replacement with Electricity

4. Reduce Emissions from Boilers

5. Reduce Emissions from Home Stoves

Phase 3: Solicitation

- Program Opportunity Notice (PON)

- Awards to be Cooperative Agreements

- Qualification Criteria:

  - U.S. Proposer
  - U.S. Technology
  - At least 50% cost sharing
  - Address one of the five Areas of Interest

- Evaluation Criteria:

  - Technical feasibility and environmental performance
  - Commercial approach and market potential
  - Qualifications of the team

Phase 3: Cooperative Agreements

- USDOE selected 8 U.S./Polish teams for funding support
- None selected for Areas of Interest 2 and 3
- Awards made between February and August 1994
- Projects are 1 to 4 years in length
- Projects have two budget periods
- Projects administered by PETC
- Program support by BNL and BRK
- Total value: $27.5 million ($12.9 million DOE share)

Kraków Program Phase 3 Cooperative Agreements

by Area of Interest:

No. 1 - Conservation/District Heating

- Honeywell
- Shooshanian Engineering Associates

No. 4 - Reduce Emissions from Boilers

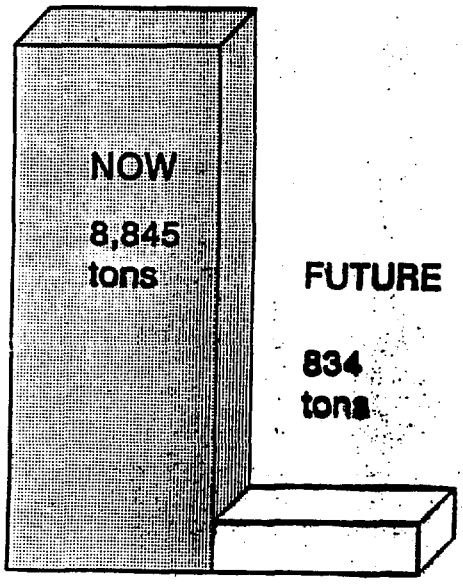
- EFH Coal Company
- Control Techtronics
- TCS, Inc.
- LSR Technologies
- Tecogen

No. 5 - Reduce Emissions from Home Stoves

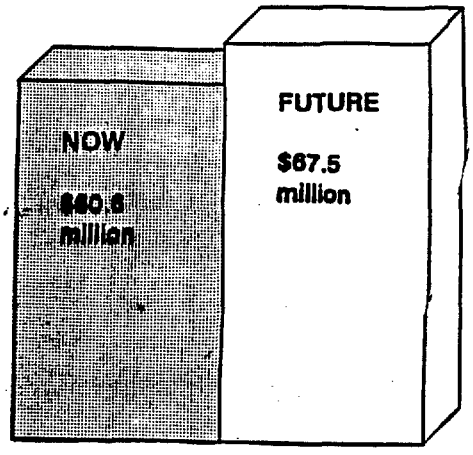
- Acurex Environmental

MAJOR POLLUTION REDUCTION AT A LOW COST

90% DECREASE IN ANNUAL PARTICULATE EMISSIONS IN KRAKOW

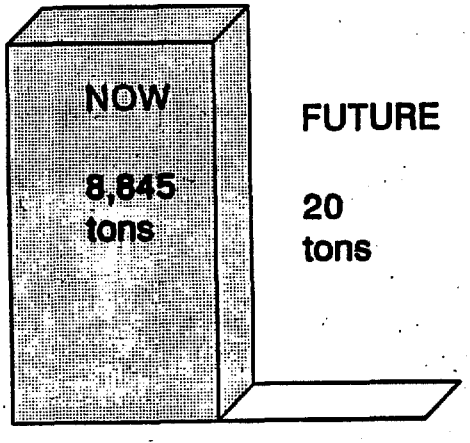


11% INCREASE IN ANNUAL HEATING COST FOR KRAKOW

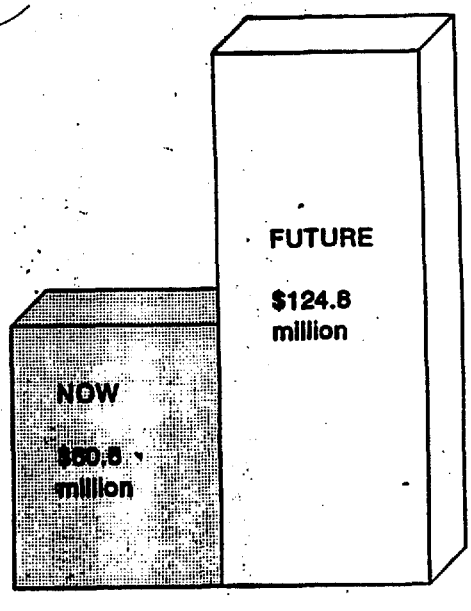


POLLUTION REDUCTION BY CONVERSION TO GAS

99.8% DECREASE IN ANNUAL PARTICULATE EMISSIONS IN KRAKOW



106% INCREASE IN ANNUAL HEATING COST FOR KRAKOW



ENERGY EFFICIENCY CENTERS

CZECH REPUBLIC
Center for Energy Efficiency (SEVEn)

POLAND
Foundation for Energy Efficiency (FEWE)

RUSSIA
Center for Energy Efficiency (CENEf)

BULGARIA
Energy Efficiency Foundation (EnEffect)

CHINA
Beijing Energy Efficiency Center (BECon)

UKRAINE
Energy Efficiency Center (ARENA-ECO)

NGO Energy Efficiency Centers: William Chandler, *Director, International Studies, DOE/Battelle, Pacific Northwest Labs*

ENERGY EFFICIENCY CENTERS
PROGRAM OBJECTIVES

- TO SUPPORT POLICY REFORM
  - Local experts can address legislative issues
  - Continuity requires local expertise
- TO DEVELOP PRIVATE BUSINESS
  - Local experts know the ropes
  - Local experts are cost-effective
  - Market development cuts investment costs
- TO DEMONSTRATE COST-EFFECTIVE SOLUTIONS
  - Technological
  - Institutional
- TO PROVIDE INFORMATION
  - To consumers
  - To investors
  - To policymakers

SOURCE: DOE; PNL

TASK DESCRIPTION
Energy Efficiency Centers

- POLICY RESEARCH AND DEVELOPMENT
  - Energy efficiency potential studies
  - Constraints analysis
  - Draft policies: IRP, DSM, Finance, Regulatory
- PRIVATE BUSINESS VENTURE DEVELOPMENT
  - Advice and support for American business
  - Market creation (policy and information)
- TRAINING AND DEMONSTRATION PROJECTS
  - Krakow
  - Plzen
  - Cesky-Krumlov
- PUBLIC EDUCATION
  - Television, radio spots
  - Publications
  - Refrigerator labels

AISU, 1995

ENERGY EFFICIENCY CENTERS
ACCOMPLISHMENTS

- POLICY
  - Polish DSM Law Developed
  - Czech Efficiency Legislation Agreement
  - Climate Convention
  - Gore-Chernomyrdin Agreements
- PRIVATE BUSINESS DEVELOPMENT
  - ENSERV enters ESCO business
  - Over 100 companies receive assistance
  - Over one dozen private sector contracts
  - International Finance Corporation Contracts
  - World Bank Privatization Loan Project
- DEMONSTRATIONS
  - Krakow project yields insulation agreements
  - Plzen defers heat supply construction
  - Russian CIP Project
- PUBLIC INFORMATION
  - Energy Bus delivers audits
  - Polish training courses completed
  - 3nd Energy-Efficiency Business Week organized

SOURCE: DOE; PNL

ENERGY EFFICIENCY CENTERS
LESSONS LEARNED

- CENTERS ARE COST EFFECTIVE
  - Cost is low
  - Skill is high
  - U.S. business profits from using them
- MARKET DEVELOPMENT REQUIRES LOCAL EXPERTISE
  - Locating investment opportunities
  - Developing institutional solutions
- SIGNIFICANT BARRIERS REMAIN
  - Financial "Catch-22s"
  - Weak legal basis for transactions
- INDEPENDENCE IS INVALUABLE
  - Flexibility for hiring experts
  - Ability to "tell the truth"

SOURCE: DOE; PNL

Improving Power Plant Efficiency in the NIS

S. Gerges
Burns and Roe

Improving Power Plant Efficiency in Russia

OBJECTIVES

- Improve Efficiency of Power Generation During Rehabilitation/Repowering of Retired Aging Thermal Power Plants.

Improving Power Plant Efficiency in Russia

DESCRIPTION OF MODIFICATIONS

- Upgrade Steam Turbine Utilizing Western Technology During Rehabilitation of Retired Boilers
- Repower Gas/Mazut Fired Boilers Utilizing Hot Windbox Repowering

RESULTS

- Application of Advanced Western Turbine Technology Could Reduce Annual Energy Requirements by 15,000 GWh per year (About 4 %).

- Repowering of Gas/Mazut Fired Boilers Could Reduce Annual Energy Requirements by 24,000 GWh per year (About 15 %).

Izhorzky Steel Mill (Russia)

DESCRIPTION OF MODIFICATIONS

- Process Improvement Program
  (Part of Commodity Import Program)

- Improvements Include:
  - Burner Management System
  - Ceramic Refractory

DESCRIPTION OF MODIFICATIONS

- Increased District Heating system Efficiency (Part of the Commodity Import Program)
  - Provide US Components and Equipment to Improve Energy Efficiency. Selected Plants Include:
    - » Vladimir
    - » Tuer
    - » Murmansk
    - » Zelenograd

IMPACT OF ENERGY EFFICIENCY IMPROVEMENT IN THE NIS

- Reduction of Energy Consumption Has Potentially Significant Impact on Balance of Trade
  - Republics with a Positive Energy Balance, Russia for example, Can Improve Balance of Trade by **Increasing** Energy Exports
  - Republics with an Energy Deficiency (Many of the Other NIS Republics) Can Also Improve Their Balance of Trade by **Decreasing** Energy Imports

Energy Service Company Development

Objectives of Activity

Develop a market for energy efficiency services, emphasizing local expertise:

1. Foster the development and capability of local private firms to provide energy efficiency services, equipment, and financing to their clients;

2. Improve energy efficiency in specific pilot sites (industrial plants, combined heat and power stations, hospitals, waterworks), through provision of energy audits, energy management programs, and energy-saving equipment;

3. Expand technical and commercial ties to the U.S., through linkages between energy efficiency associations, engineering and energy service companies, and equipment suppliers.

Rationale

Emerging private sector entrepreneurs will successfully build energy efficiency services as a sustainable activity. Multiple firms will provide diversity of expertise, geographic coverage, and competition.

Energy Service Company Development

Description of Activity

The major activities in Hungary, Romania, and Bulgaria are:

1. A six-month training program for private sector engineers on how to develop and market their business, energy audit techniques, energy efficiency monitoring equipment, performance contracting, industrial consulting, and a certification exam (Certified Energy Manager CEM by Association of Energy Engineers, AEE).

2. Establishment of local chapters of AEE, supply of US energy audit equipment of a total value of approximately $30,000 to the local AEE, and assistance to develop the local AEE as a sustainable market-oriented professional association.

3. Energy audits, energy management programs and energy efficiency equipment in 9-10 facilities in each country, mostly industrial enterprises. Each facility pays a share of cost by hiring local ESCos and paying for equipment installation and maintenance.

4. Conferences on industrial energy management and exhibition of US energy efficiency equipment.

5. Assistance preliminary to establishment of U.S. ESCo's through analysis of policy, institutional, financial and legal climate for energy performance contracting.

Energy Service Company Development

Specific Results and Lessons Learned

1. Private sector engineers went through competitive process and completed six-month training program (11 in Hungary, 15 in Bulgaria, 18 in Romania). Nearly all passed CEM exam (9 in Hungary, 14 in Bulgaria, 18 in Romania).

2. Established local chapters of AEE in all 3 countries and supplied US energy audit equipment for their use. They sat at the head table and were awarded their plaques at AEE World Energy Engineering Congresses in 1993 and 1994.

3. A competitive RFP process was successfully used to identify plants for energy management programs, rather than Government or others assigning plants. ESCo's had to go out and market their services, and not all were able to sell.

4. Most ESCo's successfully marketing their services and obtaining commercial contracts for audits and performance contracting. Audits completed in all 3 countries, with plants hiring local ESCo's and paying for equipment installation and maintenance.

5. Equipment supply in progress in two phases, with specs being developed together with local ESCo's. Phase I ($10,000 per plant) complete by April 30, 1995. Phase II ($400,000 per country) by Dec 31, 1995.

Energy Service Company Development

Impact and Broader Significance

1. First steps to create a market for local ESCo's - with paying clients and a greatly reduced role for foreign consultants as compared to programs from other donors.

2. The training program offered a tangible result - international certification - instilling pride and hope in local professionals who face competition from Western Europeans. The broad-based training program focused on market issues for entrepreneurs, not only energy but also business subjects, industrial quality, and process optimization.

3. Provided local energy engineers membership in a US-based worldwide organization of 6,000 energy professionals, and united them in a local association which gives them greater market power. Brought them to US for the AEE annual congress in 1993 and 1994.

4. ESCo's have diversified according to their own interest and expertise. Some are now reps for US equipment, some now offer not only traditional energy audits but also performance contracting, industrial management consulting for issues such as organization, pricing, restructuring, quality, maintenance and process optimization.

5. Program provides US energy efficiency equipment to promote US exports, introduce US manufacturers to these emerging markets, raise management interest, and provide tangible results.

INDUSTRIAL ENERGY EFFICIENCY IN NIS AND CEE

I. OBJECTIVES OF ACTIVITY

PRIMARY GOAL: TO FOSTER THE IMPROVEMENT OF INDUSTRIAL ENERGY EFFICIENCY IN NIS AND CEE

-ENERGY AUDITS/ASSESSMENTS AT SELECTED ENERGY CONSUMING FACILITIES

-ENERGY EFFICIENCY EQUIPMENT DEMONSTRATIONS

-FOSTERING MARKET FOR U.S. MANUFACTURERS AND ENERGY EFFICIENCY EQUIPMENT SUPPLIERS

-TECHNICAL STUDIES OF INVESTMENT PROJECTS

-ASSESSMENT OF SECTORAL ENERGY EFFICIENCY POTENTIAL AND INVESTMENT REQUIREMENTS

-TRAINING

COUNTRIES:

CEE IN 1991-2
LITHUANIA, UKRAINE, AND ARMENIA IN 1992-4
RUSSIA IN 1994

I. ENERGY SAVINGS IN RUSSIA INDUSTRIAL FACILITIES

1. NINE PLANTS: AUTO MANUF.; CHEMICAL; HOSPITAL; CABLE FACTORY; CONCRETE PLANT; REFINERY; IRON/STEEL WORKS; ALUM. PLANT; BREAD INSTITUTE.

2. TOTAL EQUIPMENT COST = $1,016,000

3. REDUCED ENERGY COSTS:
   - AT LOCAL ENERGY PRICES: $584,000
   - AT WORLD ENERGY PRICES: $2,364,000

4. PAYBACK TIME:
   - AT LOCAL ENERGY PRICES: 1.7 YEARS
   - AT WORLD ENERGY PRICES: 0.4 YEARS

II. DESCRIPTION OF ACTIVITIES

RUSSIA

1. NINE ENERGY EFFICIENCY AUDITS/ASSESSMENTS

2. ENERGY EFFICIENCY INVESTMENT PLAN FOR JEAS

ARMENIA

1. INDUSTRIAL ENERGY EFFICIENCY IMPROVEMENTS

   TRAINING AND INSTITUTION BUILDING

   CRITICAL EFFICIENCY EQUIPMENT NEEDS

2. DEVELOPMENT ALTERNATIVES FOR YEREVAN DISTRICT HEATING SYSTEM

UKRAINE

1. DISTRICT HEATING DEMONSTRATION PROJECT

2. INDUSTRIAL ENERGY EFFICIENCY IMPROVEMENTS IN ENERGY-INTENSIVE INDUSTRIES

3. DONETSK OBLAST ENERGY SYSTEM ANALYSIS

USAID DEMAND-SIDE MANAGEMENT (DSM) AND INTEGRATED RESOURCE PLANNING (IRP) TASKS

* INSTITUTIONAL POLICY DEVELOPMENT
  (POLAND, LITHUANIA)

* NATIONAL ASSESSMENT OF DSM POTENTIAL
  (POLAND, BULGARIA)

* END-USE LOAD RESEARCH
  (POLAND, LITHUANIA)

* DSM PILOT PROGRAM DESIGN AND IMPLEMENTATION
  (POLAND)

* IRP ACTION PLAN, COMPUTER MODEL, AND MANAGEMENT TRAINING
  (POLAND)

THE RESTRUCTURING OF POLAND'S POWER SECTOR

THREE-PHASE, TEN YEAR PROCESS PROVIDES TRANSITION FROM COMMAND AND CONTROL TO FULL COMPETITION

* **DECENTRALIZE RESOURCE INVESTMENT AND CONTRACTING DECISIONS TO DISCOS (SUPPLIERS)**
* **ELIMINATE SUBSIDIES IN PRICES AND ALLOW THEM TO RISE TO FULL ECONOMIC LEVELS**
* **PROVIDE FINANCIAL SUPPORT FOR REHABILITATION AND MODERNIZATION OF ENTIRE POWER SYSTEM**
* **FACILITATE PRIVATE SECTOR INVESTMENT**
* **INTRODUCE COMPETITION IN GENERATION & SUPPLY**

WHAT IS THE ROLE FOR IRP AND DSM IN RESTRUCTURED POWER SECTORS ???

"THERE IS NO ROLE"

* **THE MARKETPLACE WILL AUTOMATICALLY MAKE RESOURCE DECISIONS**
* **PRICE COMPETITION WILL NOT ACCOMMODATE THE RATE IMPACTS OF DSM**

"THERE IS AN IMPORTANT ROLE"

* **IRP WILL BE PRACTICED BY ELECTRICITY SUPPLIERS TO MAXIMIZE THEIR PROFITABILITY**
* **DSM AS A CUSTOMER SERVICE PROVIDES SUPPLIERS WITH A COMPETITIVE EDGE**

CERTAIN QUESTIONS GO BEGGING:

* ARE THESE TWO VIEWS WHOLLY INCOMPATIBLE?

* ARE THERE HYBRID APPROACHES THAT CAN EMPLOY THE "BEST OF BOTH WORLDS?"

* WILL TRANSITION PROCESSES TAKE UTILITIES THROUGH THESE HYBRIDS IN INTERIM STAGES?

* IS IT POSSIBLE TO RETAIN THE SOCIETAL BENEFITS OF ENERGY EFFICIENCY IN AN INCREASINGLY COMPETITIVE MARKETPLACE?

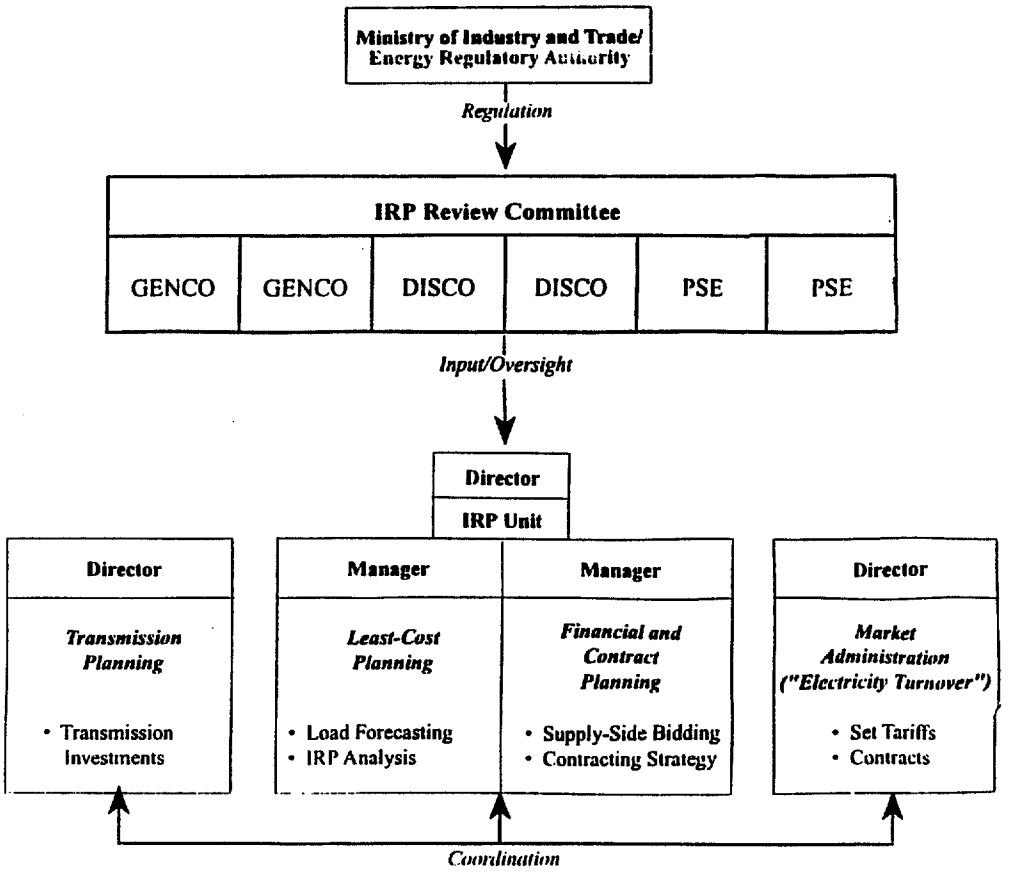
IRP/DSM IMPLEMENTATION TRACKS THE THREE-PHASE, TEN YEAR PROCESS

* ALREADY ACCOMPLISHED: LOAD FORECAST, TARIFF STUDY, SUPPLY-SIDE PLAN, TRANSMISSION PLAN, DSM ASSESSMENT

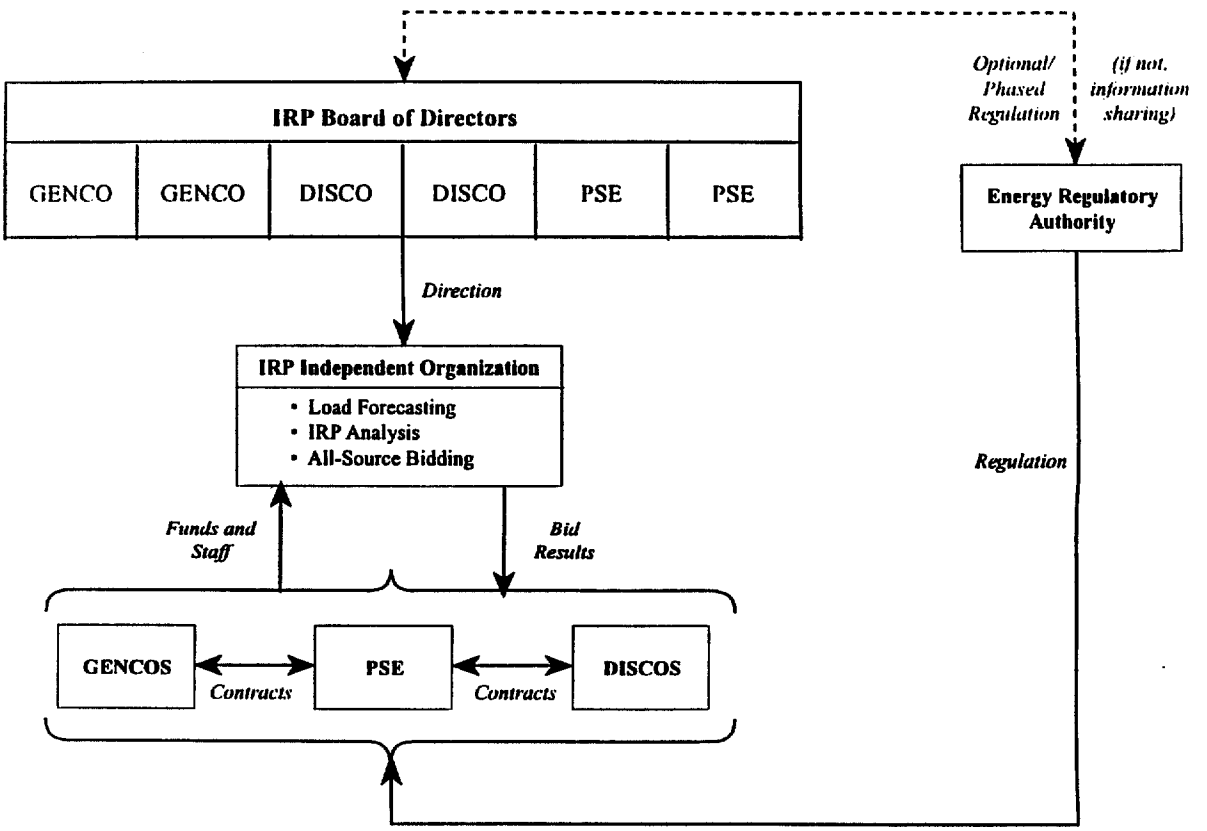
* WORLD BANK LOAN CONDITION: TRANSCO COMPLETED IRP ACTION PLAN (JUNE 1994) AND ESTABLISHED IRP UNIT (DECEMBER 1994)

* PROPOSED IMPLEMENTATION OF IRP/DSM FROM THE IRP ACTION PLAN DESCRIBES CHANGING LOCATION, PURPOSE, AND OBJECTIVE FUNCTION FOR IRP

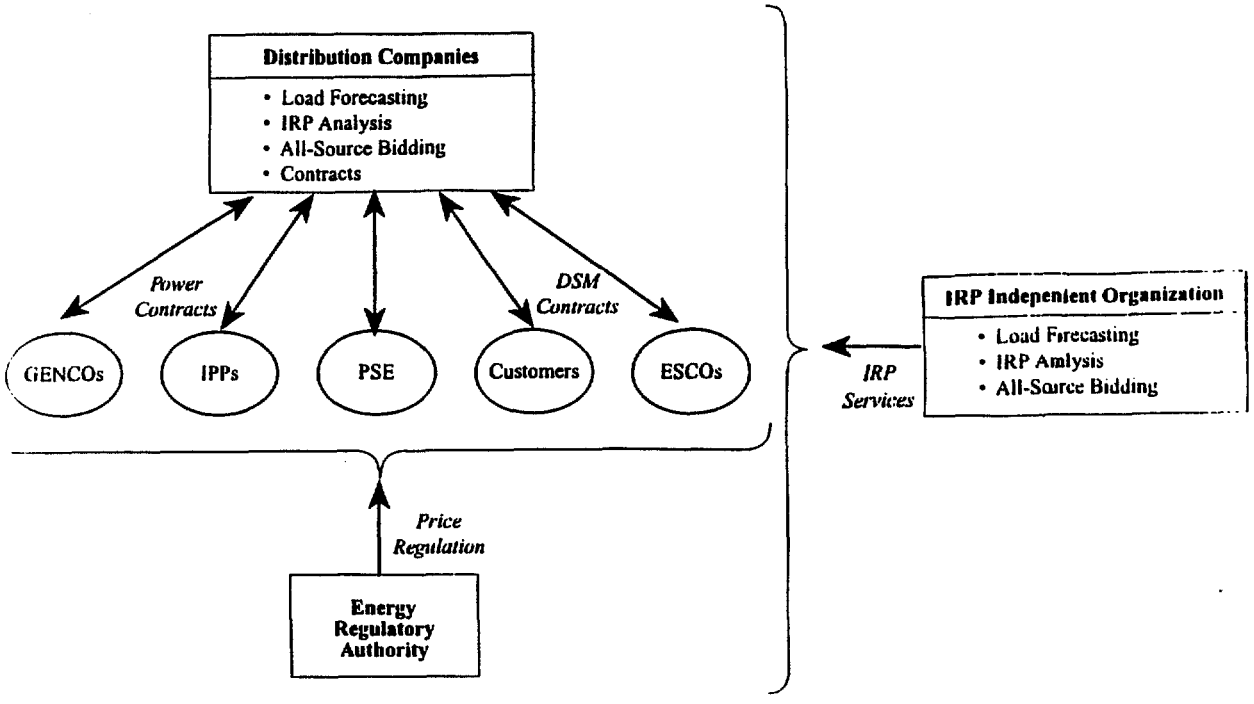
Phase 1: IRP Unit Is Established within PSE



Phase 2: IRP Unit Is Established as Independent Organization



Phase 3: IRP Units Are Established at the DISCOs



IRP IS DEAD !!! LONG LIVE IRP !!!

SIGNIFICANCE OF THE RESTRUCTURING OF POLAND'S POWER SECTOR:

* LET'S STOP THINKING SIMPLISTICALLY ABOUT ONE MODEL OF IRP/DSM; IT'S MORE SUBTLE THAN THAT

* IT'S POSSIBLE TO RECONCILE A "LIGHT HAND OF REGULATION" WITH A FULLY COMPETITIVE MARKET

* POLAND'S PHASES COULD BE END-STATES IN OTHER COUNTRIES DEFINING DEGREES OF COMPETITION

* MARKET-BASED MECHANISMS EXIST FOR INTEGRATED RESOURCE ACQUISITION AND DSM IMPLEMENTATION

Integrated Resources Planning: Robert Watson, *International Programs, Natural Resources Defense Council (NRDC)*

INTEGRATED RESOURCE PLANNING (IRP)

DESCRIPTION OF ACTIVITY

- PROJECT SPONSOR IS THE SOUTH RUSSIAN POWER POOL (YUZHENERGO)
  - 600 MLN ROUBLES ALLOCATED FOR REGIONAL IRP STUDY
- THREE UTILITIES IN YUZHENERGO POOL PARTICIPATE: ROSTOVENERGO, STAVROPOLENERGO, KUBANENERGO
- WORK WITH BOTH THE ELECTRICITY AND HEAT SUPPLY SECTORS.
- THE PROGRAM SEEKS TO DEVELOP A SERIES OF SELF-CONSISTENT PROJECTS WITHIN FIVE SUBSTANTIVE AREAS (NECESSARY, BUT NOT SUFFICIENT TO DO IRP)
  - (1) Development of energy-related institutions;
  - (2) Personnel training for staff of these institutions;
  - (3) IRP Technical Analysis, Modelling & Data Collection;
  - (4) Demonstration Projects;
  - (5) Joint Venture Development for efficiency technology.
- FOCUS TO DATE HAS BEEN ON INSTITUTIONAL ISSUES, TRAINING, AUDITS, AND INFORMATION AND PUBLIC PARTICIPATION PROGRAMS.

OBJECTIVES OF ACTIVITY

Project Goal

To build capability to undertake an integrated approach to environmental energy planning and to develop greater understanding of IRP concepts and practice amongst:

- **Regulators;
- **Regulated companies;
- **Local Governments;
- **Business;
- **the Public.

Objectives

- **Create an institutional structure which allows energy investment decisions to be based on lowest total resource cost and incorporating aspects such as system reliability and environmental impact.**

- **Train personnel in relevant institutions and organizations in the methods and means of conceiving, carrying out and evaluating IRP strategies.**

- **Create a set of practical tools and information to analyze options to meet the energy service needs of the North Caucasus.**

- **Develop practical demonstrations of energy efficiency and integrated approaches to energy planning**

- **Facilitate development of markets for sustainable energy technologies and services.**

SPECIFIC RESULTS AND LESSONS LEARNED

TRAINING:

- 8 weeks of training held in Moscow, California and the North Caucasus
- Produced over 100 pages of Russian language IRP training slides

ENERGY AUDITS

- Four separate packages of energy auditing equipment worth over $450,000 has been awarded to the region through the AID Commodities Import Program.
- 12 energy audits of different building types and industrial and commercial facilities have been conducted in the three utility service territories.

REPORTS:

A total of 7 reports in Russian have been produced covering:

- public involvement in energy issues
- IRP training
- institutional structures necessary to promote regional-level IRP
- household energy savings guide
- information programs

WORKSHOPS:

- Seven one and two-day workshops on IRP have been held in Rostov, Stavropol, Pyatigorsk and Krasnodar for top management of regional utilities, large industrial users, regional energy commissions and Oblast administrations.

LESSONS LEARNED

–A CONSISTENT PRESENCE IN THE COUNTRY IS NEEDED TO FIND GOOD PARTNERS, AND BUILD TRUST AND UNDERSTANDING

–WORK AT THE REGIONAL LEVEL IS PRODUCTIVE AND APPROPRIATE FOR ENERGY SECTOR

–MORE DIALOGUE IS NEEDED BETWEEN CENTER AND REGIONS

–ELECTRICITY AND HEAT SUPPLY INTERACTIONS (AND HEAT SUPPLY IN GENERAL) HAVE RECEIVED TOO LITTLE ATTENTION

–LACK OF CREDIBLE THREAT OF SHUT-OFF MAKES ELECTRICITY A FREE GOOD TO LARGE CONSUMERS, REDUCING THE INCENTIVE TO INVEST IN EFFICIENCY.

IMPACT AND BROADER SIGNIFICANCE OF ACTIVITY

- IRP ADDRESSES SEVERAL CRITICAL ENVIRONMENTAL AND ECONOMIC ISSUES
  - –IRP WILL REDUCE REGIONAL ENERGY BILLS, IMPROVING PROFITABILITY
  - –IRP SHOULD ALSO REDUCE UTILITY AIR EMISSIONS AND LAND IMPACTS FROM POWER DEVELOPMENT
    - –POLLUTION LEVELS AROUND POWER PLANTS ROUTINELY EXCEED PRESCRIBED STANDARDS
    - –ELECTRIC UTILITIES ARE AN IMPORTANT SOURCE OF GREENHOUSE GAS EMISSIONS
  - –NORTH CAUCASUS REGION IS A MAJOR AGRICULTURAL AND RECREATION AREA

- OVER THE LONGER TERM, IRP WILL REDUCE POWERPLANT NEEDS
  - –A LARGE COAL-FIRED POWER PLANT IS PROPOSED NEAR ROSTOV
  - –A PARTIALLY-COMPLETE 4000 MW NUCLEAR POWER PLANT IS ALSO SCHEDULED TO BE COMPLETED, DESPITE SIGNIFICANT PUBLIC OPPOSITION.

- THE SOUTH RUSSIA POWER POOL IS ONE OF THE MOST DEFICIT REGIONS IN THE COUNTRY (10-30%)

- PROJECT IS A REPLICABLE MODEL FOR REGIONAL-LEVEL IRP PROGRAMS IN OTHER REGIONS OF RUSSIA

- THE U.S. WILL BENEFIT FROM PROMOTING ITS ENERGY-SAVING TECHNOLOGIES, ANALYTICAL TOOLS AND IMPLEMENTATION EXPERIENCE

Hungary Mining Office: Robert Middleton, *Project Officer, Minerals Management Service, U.S. Department of Interior*

Hungary

Training for the Hungarian Mining Office

Results and Lessons Learned

Minerals Management Service

January 6, 1994

- November, 1990 - DOI developed a letter of agreement and cooperation with Hungary.

- June, 1991 - Concession Law signed

- March, 1992 - Interagency agreement between USAID and DOI was signed

- Sept 1992 to Aug 1993 - Provided training modules.

- October, 1993 - Mining Law was signed

- July, 1994 - Computer equipment installed. Final data management training provided.

Minerals Management Service
January 6, 1994

- DOI provided ad-hoc training and support since 1990.
  - Review of information base (Hungarian Geological Survey)
  - Baseline economic discussions
  - Development and review of the new Mining Law (and implementing orders).
  - Development of Hungarian Mining Office

- Interagency agreement between USAID and DOI.
  - DOI provided $160,000 in in-kind support.
  - USAID provided $120,000 for support of the training.
  - USAID developed a contract with Bechtel to provide additional support.

- Objectives:
  - To provide the Hungarian government with the benefit of U.S. expertise in managing and regulating mineral development programs in a free market
  - To encourage sustainable development of Hungarian mineral resources
  - To provide western investors with a familiar playing field for mineral development

- Confidential and Public Data Management
- Management of Environmental Issues and Processes
- Concession Administration in the Domains of:
  - Determination and Management of Economic Mineral Resources
  - Performing Environmental Assessments of Proposed Mineral Exploration and Development Activities
  - Contract Negotiation and Administration
  - Regulation Development and Administration
  - Mineral Revenue Management

Minerals Management Service
January 6, 1994

- Inspection of Mineral Exploration and Development Activities under a Mineral Concession Program.
- Development of Revenue Management Systems.

Results

- Approximately 200 individuals attended the various training courses in Hungary
- 14 Hungarians participated in training in the U.S.
- A computer network system with a server and 7 workstations and software was installed in the new Hungarian Mining Office.
- A concession was held

08/12/1994 U.S. firms win Hungarian oil concessions

BUDAPEST, Aug 12 (Reuter) - Hungary has awarded oil and gas exploration rights to <Blue Star Corp>, Coastal Corp <CGP.N>, Occidental Petroleum Corp <OXY.N> unit Occidental of Hungary Inc and Mobil Corp <MOB.N> unit Mobil Erdgas Erdol GmbH, government officials said.

The four firms won concessions for six areas, which cover a total of more than 9,000 square km, said Antal Fust, director of the Hungarian Mining Bureau (MNB).

The concessions mark the first time Hungary has awarded drilling rights to foreign firms since World War Two, Fust said.

UPf 08/29/1994 Mobil sets Hungarian deal

FAIRFAX, Va., Aug. 29 (UPI) -- Mobil Corp. announced Monday it will explore for petroleum and natural gas in Hungary, marking its first exploration activity in Eastern Europe.

The rights cover eight blocks east of Budapest in the northern part of the Hungarian Plain. The acreage covers 2,400 square kilometers or 927 square miles.

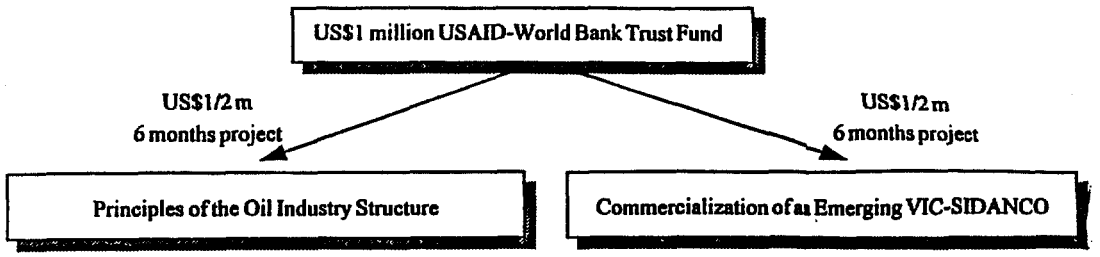
"This marks Mobil's first exploration activity in Eastern Europe," said Mobil Chairman Lucio A. Noto. "It is a promising area that fits well with our global strategy of seeking new ventures that could become our core assets for the future."

Lessons

- Be Flexible
- Up-front time pays dividends
- Technical expertise vs. interpersonal skills
- Do not underestimate the problems of translation
- Do not overestimate the information base of the client.
- If possible, arrange training outside of major cities.
- Be flexible

Viewgraph 1

CORPORATE RESTRUCTURING IN THE RUSSIAN OIL INDUSTRY



Recipient: Ministry of Fuel and Energy

Consultants: The Boston Consulting Group

Objectives:

- Recommendations to guide government decision making on industry structure
- Arrangements for management of the state shares of oil companies
- Contribute to creation of competitive markets:
  - Divestiture of state assets and privatization
  - Demonopolization and competition policies
  - Development of market forces and behavior

Recipient: Siberian-FarEastern Co. (SIDANCO)

Consultants: Bain and Co.

Objectives:

- Changes to operate effectively in a commercial manner
- Corporate strategies most appropriate to the present situation
- Operational improvements to enhance profitability in the short and medium term
- Focus on benefits of integration of upstream and downstream operations

Russia Corporate Restructuring, Ira Lieberman, *Manager, Restructuring & Privatization,*
Igor Artemiev, *Private Sector Development Specialist, World Bank*

Viewgraph 2A

PRINCIPLES OF OIL INDUSTRY STRUCTURE:

ACTIVITIES

ACTIVITY	ISSUES
• Rationale for creation of vertically integrated companies (VICs) • Mixed structure of the oil industry • National oil companies	• International comparisons • Competition issues • Role of independent sector • Objectives, functions, regulation • Models of combining regulatory and operational functions • Models of protecting small and independent producers • De-monopolization • Federal and local regulations • National monopoly laws • Federal regulatory agencies • De-monopolization options • Competition, regulation in issue of licenses by government • Feasibility of transferring them into independent companies • Structural options • Representation • Corporate governance • Types of shares • Trust management of shares • Mechanisms and policies • Flotation of secondary markets and retention of state control • Divestiture scenarios
• Implications of different industry structure for competition, monopoly corporate governance and consumer protection • Regulation of monopoly in the oil sector	
• Oil storage, distribution and retail	
• Oil services enterprises	
• Management of state shares	
• Privatization and capital markets	

Viewgraph 2B

COMMERCIALIZATION O. NG:

ACTIVITIES

ACTIVITY	ISSUES
• Contribute to development of corporate culture	• Corporate control over the assets assigned to SIDANCO • Financial control, audit of subsidiary companies • Corporate vs. ministerial planning and decision making
• Maximize benefits of integration, increase operating improvements	• Improve on-going operating performance through integrated capacity planning and transfer pricing • Cost reduction across operating companies through "best practices" demonstrations
• Strategic restructuring	• Address long-term viability of operations • Expand asset portfolios keeping in mind long-term viability • Concept for non-viable assets "public utility"
• Streamline financial reporting	• Establish reporting on cash flows • Control expenses, currency contracts social assets expenditures • Improve receivables management
• Corporate planning	• Medium-term projections of supply demand, costs (36 month plan) • Pricing options, focus on customers paying the bills • Financial requirements and sources
• Corporate governance	• Major minority shareholdings • IPO and flotation options • Communications with potential investors

Viewgraph 3

CORPORATE RESTRUCTURING

SPECIFIC RECOMMENDATIONS AND POTENTIAL IMPACT

- When establishing VICs consider implications for competition on upstream and downstream levels
- Do not inhibit intrafirm integration by federal and regional policies
- Optimal integration pattern of VICs
- Support of the independent sector
- Reduce the number and increase potential of service companies
- Guarantee access to transport for all players
- Clear rules on organization of share registration, custody, desclosure of information
- Remove limitation from charters
- Workout general procedures and timing of privatization
- Audits of reserves and accounts
- Choose appropriate privatization mechanisms

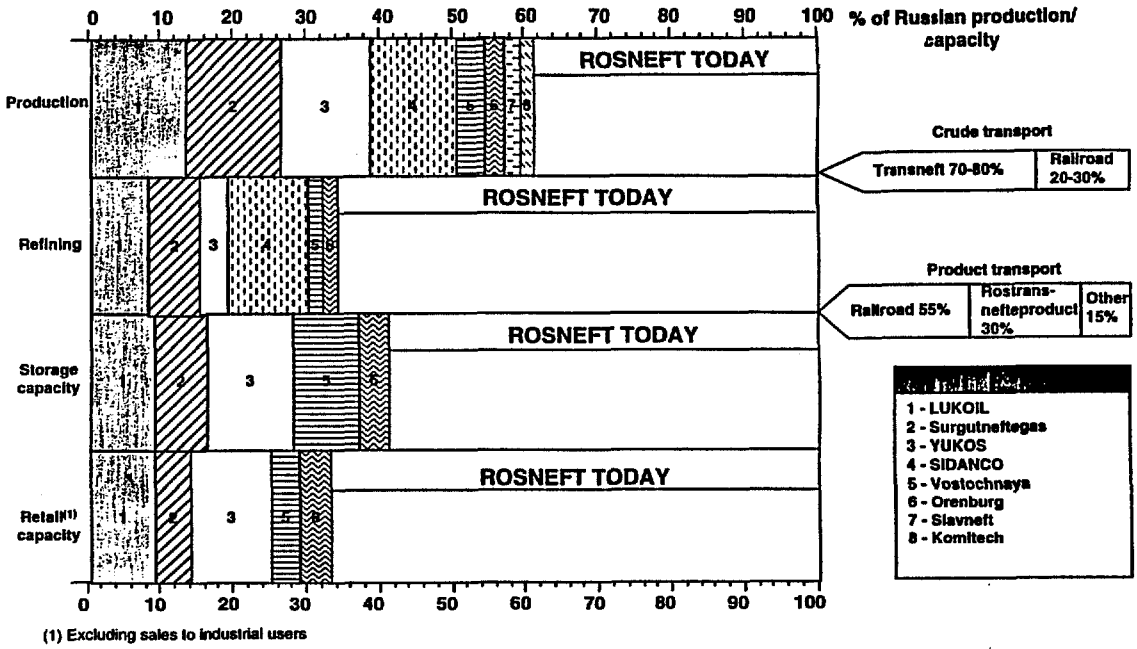
CORPORATE RESTRUCTURING:

LESSONS LEARNED

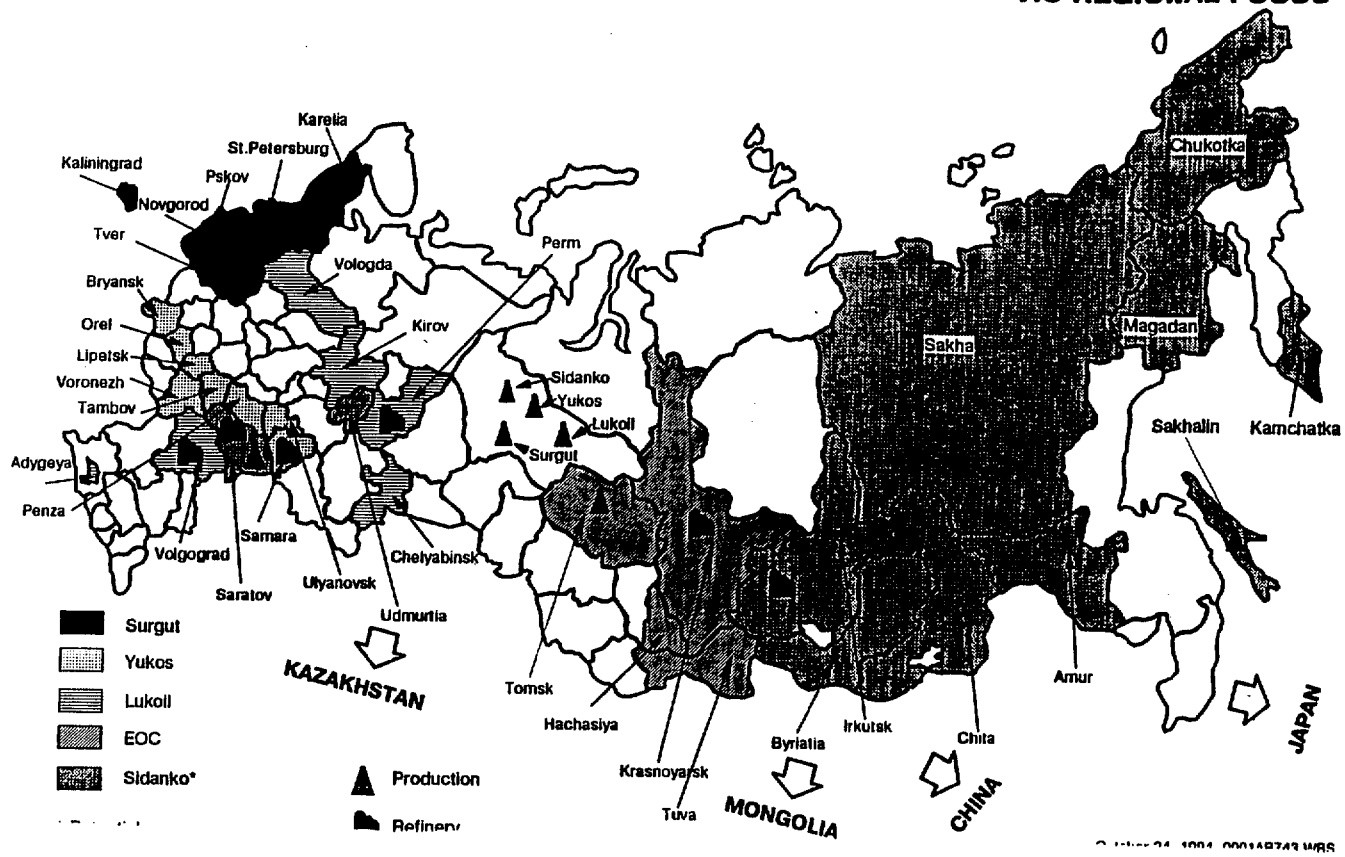
- MFE does want consultants to formulate recommendations jointly with their participation
- The process of relocation and working with key players (influencing their decisions) is more important than tangible deliverables (papers, report, etc.)
- Key people ≠ high level officials, although the high level involvement is desirable at the take-off and the concluding stages
- **Danger:** Consultants are hired not to please the clients, but to tell them what the problems are and how to confront them

VICs' NATIONAL SHARE IS HIGHER UPSTREAM THAN DOWNSTREAM

Market share



(1) Excluding sales to industrial users


Karelia
St.Petersburg
Kaliningrad
Pskov
Novgorod
Tver
Vologda
Perm
Bryansk
Orel
Kirov
Lipetsk
Voronezh
Tambov
Sidanko
Yukos
Lukoil
Surgut
Adygeya
Penza
Samara
Volgograd
Saratov
Ulyanovsk
Udmurtia
Chelyabinsk
KAZAKHSTAN
Tomsk
Hachasiya
Krasnoyarsk
Tuva
Byriatia
Irkutsk
Chita
MONGOLIA
CHINA
Amur
JAPAN
Sakha
Chukotka
Magadan
Sakhalin
Kamchatka
Surgut
Yukos
Lukoil
EOC
Sidanko*
Production
Refinery

FACTS

- Decrease in domestic production since the peaks of the mid-1970s; Ukraine is now over 90% dependent on Russia
- Ukraine may reduce its dependence on imports by increasing domestic production
- increased production will require capital and technology from the international oil companies ("IOCs")
- some IOCs have expressed interest in Ukraine but there is no significant investment to date

OBJECTIVES

- to promote the optimum economic development of oil and gas in Ukraine
- to create an enabling environment which will attract foreign investment
- to initiate the transition from state dominance of the energy sector to a market economy

- Task I - oil and gas legislation
- Task II - petroleum exploration promotion project
- Task III - corporatization and regulatory reform

STEPS IN THE PROCESS:

- initial meeting with Ukrainian officials
- familiarization with Ukrainian legal and regulatory structure
- first interim report
- mid-project seminar to discuss examples in other countries and options available to Ukraine
- second interim report
- final meeting with senior government officials
- receipt and review of written comments from Ukrainian officials
- final report

SPECIFIC RESULTS AND LESSONS LEARNED

- Status quo vs. radical reform
  - consider political realities and social costs
  - but what will attract IOCs? what is Ukraine's competition?
  - opted for reform - consistent with our objectives
- Response of Ukrainian officials to report
  - State Oil and Gas Committee and Rada officials were very supportive and engaged
  - ministries with the most to lose were the least receptive
- Serious companies vs cowboys - how to distinguish?
  - serious companies commit to long term investment
  - cowboys have a short term focus - want to make a deal and turn it quickly for a profit
  - difficult for Ukrainian officials to tell them apart
  - difficult for Western consultants to persuade Ukrainians not to deal with cowboys
- Oil and gas is important too

- Problems
  - only the beginning of a long process
  - Ukraine cannot do it alone
  - political uncertainties
  - commitment to reform?
- Prognosis
  - with additional assistance, Ukraine has a reasonable chance of passing the law and attracting foreign investment
  - without assistance, little chance that the government will have the ability or incentive to continue
- Promise
  - efficient state oil company with minimal involvement by the government
  - modern legal framework which will attract IOCs
  - increased production to reduce dependence on Russia
  - success here could lead to similar results in the very important areas of transportation and refining

Coal Modernization: William Meagher, *Managing Dir, Partners in Economic Reform (PIER)*

THE COAL PROJECT
(PIER)

OBJECTIVES:

- PROMOTE AND FACILITATE REFORM AND RESTRUCTURING OF THE COAL INDUSTRIES IN RUSSIA, UKRAINE AND KAZAKHSTAN
- INVOLVE BOTH LABOR AND MANAGEMENT IN THE RESTRUCTURING PROCESS
- IMPROVE HEALTH AND SAFETY CONDITIONS IN THE MINES
- IMPROVE ECONOMIC AND TECHNICAL EFFICIENCY OF MINING ENTERPRISES
- CONTRIBUTE TO SOCIAL STABILITY IN THE COAL REGIONS DURING THE TRANSITION PROCESS
- ENCOURAGE AND FACILITATE THE ACTIVE INVOLVEMENT OF U.S. PRIVATE SECTOR COAL PRODUCERS AND SUPPLIERS IN THE REFORM AND DEVELOPMENT OF THE NIS COAL INDUSTRIES.
- FACILITATE THE WORK OF U.S. GOVERNMENT AND PRIVATE SECTOR ORGANIZATIONS, THE WORLD BANK AND OTHER INTERNATIONAL ORGANIZATIONS IN THE COAL INDUSTRIES AND REGIONS
- DESIGN AND IMPLEMENT TRAINING PROGRAMS, SEMINARS, EXCHANGES AND OTHER PROJECTS AND PROGRAMS TO SUPPORT THESE OBJECTIVES

DESCRIPTION OF ACTIVITY:

PHASE I:

DEVELOP FAMILIARITY WITH THE COAL INDUSTRY IN THE THREE COUNTRIES AND THE PRIMARY COAL PRODUCING REGIONS THROUGH MISSIONS TO EACH COUNTRY AND ITS MAJOR COAL REGION(S), AND DETAILED REPORTS ON THE RESULTS OF THESE MISSIONS.

PHASE II:

ESTABLISH COAL INDUSTRY LIAISON OFFICES, HEADED BY A U.S. COUNTRY DIRECTOR, IN THE CAPITAL OF EACH COUNTRY (MOSCOW, KIEV AND ALMATY). THE OFFICES ARE DESIGNED TO:

- ESTABLISH RELATIONS WITH LOCAL GOVERNMENT AND NON-GOVERNMENTAL ORGANIZATIONS DEALING WITH THE COAL INDUSTRY;
- DEVELOP DETAILED DATA ON THE INDUSTRY;
- ENCOURAGE AND FACILITATE THE WORK OF U.S. AND INTERNATIONAL ORGANIZATIONS WORKING IN THE COAL INDUSTRY BY PROVIDING BACKGROUND INFORMATION; INTRODUCTIONS TO KEY OFFICIALS; LOGISTICAL SUPPORT; TRANSLATION/INTERPRETATION SERVICES; COMMUNICATIONS; EXPERT ADVICE; OTHER FACILITATIVE/SUBSTANTIVE SUPPORT.
- ORGANIZE AND CONDUCT SEMINARS AND TRAINING PROGRAMS DEALING WITH SPECIFIC ISSUES (RESTRUCTURING; SAFETY; LABOR-MANAGEMENT RELATIONS).
- SELECT CANDIDATES FOR TRAINING IN THE U.S: PROVIDE BRIEFINGS, LOGISTIC ARRANGEMENTS AND FOLLOW-UP.
- ADMINISTER SPECIFIC PROGRAMS AND PROJECTS AND CONDUCT SPECIAL STUDIES. (E.G.,TRANSITION ASSISTANCE PROGRAM; MINE RATIONALIZATION STUDY).

ESTABLISH TRAINING AND DEVELOPMENT CENTERS IN EACH OF THE MAJOR COAL REGIONS, HEADED BY A U.S. COAL MINING ENGINEER WITH IN-DEPTH EXPERIENCE IN THE U.S. COAL INDUSTRY. IN ADDITION TO THE KIND OF SERVICES PROVIDED BY THE LIAISON OFFICES, THE CENTERS:

- CONDUCT A REGULAR PROGRAM OF TRAINING IN MINE SAFETY;
- DISTRIBUTE U.S. PRODUCED MINE SAFETY EQUIPMENT;
- CONDUCT SEMINARS ON A VARIETY OF TECHNICAL SUBJECTS (PRODUCTION; FINANCE; SAFETY AND HEALTH; MANAGEMENT).

SPECIFIC RESULTS

KAZAKHSTAN

- CONDUCTED CONTINUING PROGRAM OF TRAINING ON HEALTH AND SAFETY AND EFFICIENCY IN UNDERGROUND MINING
- CONDUCTED AN IN-DEPTH SURVEY OF SURFACE MINING PRACTICES AT EKIBASTUZ, WITH RECOMMENDATIONS FOR LOW COST IMPROVEMENTS IN A NUMBER OF AREAS
- PROVIDED $65,000 OF MINE HEALTH AND SAFETY EQUIPMENT FOR UNDERGROUND MINERS
- FACILITATED NEGOTIATIONS BETWEEN THE KAZAKHSTAN GOVERNMENT AND THE U.S. MINE HEALTH AND SAFETY ADMINISTRATION ON CERTIFICATION OF U.S. MADE SAFETY EQUIPMENT
- EXPOSED KAZAKHSTAN EXPERTS TO U.S. ROOF-BOLTING TECHNIQUES IN UNDERGROUND MINING
- CONDUCTED SURVEY OF RECLAMATION PRACTICES IN EKIBASTUZ
- CONDUCTED FOLLOW-UP COAL TRANSPORTATION SEMINAR WITH CSX TRANSPORT
- HOSTED VISIT BY THE NEW MINISTER OF COAL TO THE UNITED STATES WHICH INCLUDED EXTENSIVE EXPOSURE TO U.S. MINING PRACTICES; DEMONSTRATION OF U.S. COAL MINING EQUIPMENT AND TECHNOLOGY; AND, INITIATED DISCUSSIONS WITH WORLD BANK REPRESENTATIVES ON COAL INDUSTRY RESTRUCTURING

SPECIFIC RESULTS

UKRAINE:

- CONDUCTED U.S. TRAINING PROGRAMS ON COAL INDUSTRY MANAGEMENT; HEALTH AND SAFETY PRACTICES AND PROGRAMS; COAL BENEFICIATION; THE ROLE OF REGIONAL GOVERNMENT IN COAL INDUSTRY RESTRUCTURING; MINE RESCUE TECHNIQUES; METHANE GAS RETRIEVAL AND UTILIZATION

- FACILITATED NEGOTIATIONS BETWEEN UKRAINIAN AUTHORITIES AND THE U.S. MINE HEALTH AND SAFETY ADMINISTRATION ON CERTIFICATION OF U.S. MANUFACTURED SAFETY EQUIPMENT

- CONDUCTED CONTINUING TRAINING PROGRAMS IN UKRAINE ON: U.S MINE HEALTH AND SAFETY PRACTICES; COAL QUALITY; COAL MARKETING; COAL INDUSTRY LABOR-MANAGEMENT RELATIONS.

- DEVELOPED A LIBRARY OF UKRAINIAN/RUSSIAN LANGUAGE VIDEOS ON U.S. MINE HEALTH AND SAFETY PRACTICES AND MINING TECHNIQUES

- PROMOTED AND FACILITATED A WORLD BANK/WEF PROJECT TO RETRIEVE AND UTILIZE COAL BED METHANE IN DONBASS

- SUPPORTED THE WORK OF NUMEROUS U.S. GOVERNMENT AND PRIVATE SECTOR ORGANIZATIONS IN UKRAINE

- CONDUCTED IN-DEPTH RESEARCH ON COAL PROCESSING AND BENEFICIATION IN UKRAINE

SPECIFIC RESULTS:

RUSSIA:

- INITIATED DIALOGUE ON COAL INDUSTRY RESTRUCTURING AND PROVIDED CONTINUING SUPPORT, ASSISTANCE AND SUBSTANTIVE IN-PUT INTO THE PREPARATORY WORK FOR THE COAL INDUSTRY RESTRUCTURING PROGRAM

- USAID SUPPORT, PROVIDED THROUGH THE PIER PROGRAM TO THE RUSSIAN COAL SECTOR HAS LEVERAGED POTENTIAL ASSISTANCE AND LENDING TOTALLING SEVERAL HUNDRED MILLIONS OF DOLLARS.

- SERVED AS CONDUIT FOR NUMEROUS U.S. COAL EQUIPMENT AND SUPPLY COMPANIES IN RUSSIA, RESULTING IN AT LEAST TWO MULTI-MILLION DOLLAR CONTRACTS

- CONDUCTED U.S. STUDY PROGRAMS AND SEMINARS FOR 100 RUSSIAN MANAGEMENT, LABOR AND GOVERNMENT REPRESENTATIVES IN CONJUNCTION WITH RESTRUCTURING TALKS IN WASHINGTON

- PROVIDED $200,000 OF MINE SAFETY EQUIPMENT, AND FACILITATED AN ADDITIONAL $10 MILLION THROUGH THE CIP

- IMPLEMENTED A "TRANSITION ASSISTANCE PROGRAM" FOCUSSED ON CREATION OF A VIABLE SAFETY NET AND NEW JOB CREATION

- DEVELOPED AN EXTENSIVE LIBRARY OF RUSSIAN LANGUAGE MATERIALS ON U.S. AND INTERNATIONAL MINE HEALTH AND SAFETY PRACTICES, COAL TECHNOLOGY, MANAGEMENT, SMALL BUSINESS DEVELOPMENT AND OTHER SUBJECTS.

- BROKERED TALKS BETWEEN MSHA AND RUSSIAN COUNTERPARTS ON THE CERTIFICATION OF U.S. MANUFACTURED MINE SAFETY DEVICES AND EQUIPMENT

- ESTABLISHED COAL BED METHANE CENTER IN KEMEROVO

- LABOR-MANAGEMENT TRAINING LED TO MODIFICATION OF INCENTIVE PAY SYSTEM ELIMINATING A MAJOR CAUSE OF MINE ACCIDENTS

LESSONS LEARNED

- THE STRUCTURE OF THE COAL PROJECT IS ESSENTIALLY SOUND:
- INVOLVING LABOR AND MANAGEMENT IN THE RESTRUCTURING PROCESS IS A MUST FOR MAINTAINING SOCIAL STABILITY DURING THE PROCESS, AS WELL AS FOR EFFECTIVE IMPLEMENTATION OF THE PROGRAM
- ESTABLISHING RELATIONSHIPS AT BOTH THE CAPITAL AND THE REGIONAL LEVELS IS ALSO ESSENTIAL
- REFORM, AND THE PROSPECTS FOR REFORM CONTRIBUTE ENORMOUSLY TO THE SUCCESS OF A PROJECT; AND GIVE THE WHOLE PROGRAM REAL MEANING AND SIGNIFICANCE
- HEALTH AND SAFETY PROGRAMS ARE IMPORTANT IN THEMSELVES AND AS "CONFIDENCE BUILDERS".
- INDIVIDUALS, AND THEIR COMMITMENT TO REFORM, ARE EXTREMELY IMPORTANT FOR SUCCESS.

IMPACT AND BROADER SIGNIFICANCE

IN ALL THREE COUNTRIES THE DECLINE IN THE COAL INDUSTRY AND CONSTANTLY INCREASES IN COAL SUBSIDIES REPRESENT MAJOR CONSTRAINTS ON OVERALL ECONOMIC PERFORMANCE AND REFORM; ANYTHING THAT EASES THESE BURDENS MAKES AN IMPORTANT CONTRIBUTION TO OVERALL PERFORMANCE OF THE ECONOMY.

THE COAL INDUSTRIES AND REGIONS IN ALL THREE COUNTRIES HAVE TRADITIONALLY BEEN MAJOR CENTERS OF SOCIAL AND POLITICAL STRIFE.

CONTINUITY AND FOLLOW-ON

RESTRUCTURING PROGRAM

CABNIS

OVERVIEW OF THE ENERGY INDUSTRY PARTNERSHIP PROGRAM FOR THE NEW INDEPENDENT STATES OF THE FORMER SOVIET UNION

A Program of the
UNITED STATES ENERGY ASSOCIATION
and the
UNITED STATES
AGENCY FOR INTERNATIONAL DEVELOPMENT

William L. Polen
Program Manager

OBJECTIVE

To establish long-term cooperative relationships which provide a mechanism for the U.S. energy industry to assist its NIS counterparts in the transition to market economies by transferring its experience in market-based energy production, transmission, and distribution.

Energy Industry Partnership Program
Conference on Energy Restructuring and Economic Reform

USEA

Gas Partnerships: William L. Polen, Program Manager, Energy Industry Partnership Program/NIS; United States Energy Association

ACTIVITY DESCRIPTION

- **Establish Partnerships Between U.S. & NIS Utilities**

  Brooklyn Union Gas/Vladimiroblgaz
  Columbia Gas/Penzagazifikatsia
  Cincinnati Gas & Electric/Alaugaz
  Questar/Samaraoblgaz
  National Fuel Gas/Sibirigazservis
  AGA/Gazprom/Rosgaz

- **Identify Focus Areas**

  Corporate Structure/Financial Management
  Rate Setting/Pricing
  Human Resources/Utility Safety
  Plant Reliability
  Shareholder Relations
  Metering/Customer Service

- **Develop and Execute Workplans Through Seminars, Study Tours, Exchange Visits, Internships**

- **Produce Deliverable Product**

Energy Industry Partnership Program
Conference on Energy Restructuring and Economic Reform

USEA

SPECIFIC RESULTS

- **Corporate Constituency Developed Throughout U.S.**

  - U.S. Utility Partners in Cincinnati and Columbus OH; Buffalo NY; Salt Lake City UT; Brooklyn NY; Spokane WA; Allentown PA

- **Partnerships Established**

  - Workplans Developed
  - Deliverables Defined

- **Russian Gas Sector Developing Awareness of Need for Change**

  Apolitical Regulation
  Corporate Governance
  Pricing
  Metering

Energy Industry Partnership Program
Conference on Energy Restructuring and Economic Reform

USEA

LESSONS LEARNED

- **Regional Energy Companies Operate in Chaotic Environment**
  - Lack of Political/Industry Support for Reform
  - Subsidized Tariffs
  - Redundant Employment Levels
  - Accounts Receivable
- **Inability to Implement Reform Unless Prompted From Above**
- **Top-Down and Bottom-Up Approaches Should Be Combined to Achieve Reforms**
  - Legal/Regulatory Reform at Ministerial/Oblast Level
  - Corporate Reform in Response to Ministerial/Oblast Reform

IMPACT & BROADER SIGNIFICANCE

- **Working With Gazprom and LDCs to Restructure and Increase Technology Cooperation Will Improve Efficiency**
  - Reduce Losses and Increase Production
  - Increase Gas Exports/Increase Hard Currency Revenue
  - Generate Ripple Effects to Other Sectors
  - Reduce Methane Emissions/Greenhouse Gasses
- **Lacking Support, LDCs May Be Taken Over By Gazprom**
  - Gazprom Monopoly from Wellhead to Burner Tip
  - Reduced Prospects for Competition Within Gas Sector

G-7 Initiative, Carol Kessler, *Deputy Director for Reactor Safety & Science Centers, Office of Nuclear Energy Affairs, Political-Military Bureau, State Department*

G-7 Initiatives on Nuclear Safety

1992 - Munich

1993 - Tokyo

1994 - Naples

1995 - Halifax?

Commitments of close to $1 billion in grant assistance

USG committed nearly $200 million in grant aid

G-7 objectives

- o short term safety improvements to least safe reactors
- o strengthen nuclear regulation
- o improve operator training; develop a safety culture
- o power sector analysis and reform
- o mobilize domestic and international financial resources to assist in power sector changes which could lead to early closure of least safe reactors

description of activity

- o g-7 munich, tokyo and naples summit deliberations
- o coordination of bilateral nuclear safety assistance
  - -- g-24 nuclear safety coordination centre
- o multilateral assistance - nuclear safety account
  - -- bulgaria - kozloduy
  - -- lithuania - ignalina
  - -- russia - novovoronezh, sosnoviy bor, kola
- o a special case: Chornobyl
  - -- g-7 action plan for ukraine's energy sector

impact and broader significance

- o nuclear safety as a driver for power sector reform
- o IFI policy changes
- o robust national safety improvement programs
- o convention on nuclear safety
- o public participation in nuclear reactor decisions

results and lessons learned

- o implementation has been slower than hoped for, both bilaterally and multilaterally
  - -- liability problems
  - -- cultural differences
  - -- power of nuclear ministries
  - -- pace of power sector reforms
  - -- continuing evolution of government
- o real changes in safety culture and practices are beginning
- o multilateral pressure is needed, but bilateral programs are more efficient
- o partners are important
- o IFI support is key to longer term program success
- o early reactor closure is complicated by social safety net issues

NUCLEAR SAFETY AND RESTRUCTURING

LEGAL/REGULATORY FRAMEWORK

AID CONFERENCE ON ENERGY RESTRUCTURING AND ECONOMIC REFORM IN CENTRAL/EASTERN EUROPE AND THE NEW INDEPENDENT STATES

JANUARY 5-6, 1995

CARLTON R. STOIBER, DIRECTOR
OFFICE OF INTERNATIONAL PROGRAMS
UNITED STATES NUCLEAR REGULATORY COMMISSION

NUCLEAR SAFETY LAW AND REGULATION: BASIC ELEMENTS

THE CONVENTION ON NUCLEAR SAFETY CODIFIES BASIC NUCLEAR SAFETY PRINCIPLES AS INTERNATIONAL LEGAL OBLIGATIONS

- **Confirms Primary Responsibility of the Operator for Safety (Not the Regulator)**
- **Commits Signatories to Legislative and Regulatory Framework to Include:**
  - -- **Legislatively-mandated National Safety Requirements and Regulations;**
  - -- **Nuclear Installation Licensing System -- Operation Prohibited Without License;**
  - -- **Inspection and Assessment of Nuclear Installations to Ascertain Compliance;**
  - -- **Enforcement Process for Regulations and License Conditions, Including Suspension, Modification or Revocation;**
  - -- **Truly Independent Regulatory Body With**
    1) **Adequate Legal Enforcement Authority, Competence, and Financial and Human Resources, and**
    2) **Functions Separate from Those of Other National Organizations Responsible for Promoting Nuclear Energy.**
- **Affirms the Need for Acceptable Third Party Liability Protection**

U.S. BILATERAL REGULATORY ASSISTANCE/COOPERATION PROGRAMS

- April 1988 - NRC Began Safety Cooperation with USSR Under Peaceful Uses of Atomic Energy Agreement. DOE Joined One Year Later.
- Regulatory Assistance Began in May 1992 After Break-up of USSR to Enhance Technical Capability of Nuclear Regulators in Russia and Ukraine. CEE Assistance Also Began in 1992.
- Principles of U.S. Nuclear Safety Agreements with Russia and Ukraine Commit Them to Develop Strong and Effective Regulatory Bodies
- Areas of Concentration
  - -- Licensing and Inspection
  - -- Incident Response
  - -- Research (PRA, Code Development)
  - -- Regulatory Training
  - -- Security (MC&A, Physical Protection)
  - -- Legal Aspects (Basic Law, Enforcement)
- Annual Funding of NRC Regulatory Assistance Program: ($Million)

Fiscal Year	92	93	94	95
Russia	1.500	2.5	6.000	3.0
Ukraine	1.500	2.5	5.000	0.0
CEE[1]	.725	.9	1.623	1.5

[1] Support for Eastern European Democracy (SEED) Act

SIGNIFICANCE OF REGULATORY COOPERATION AND ASSISTANCE

- Impact of the Chernobyl Accident and Integration of the Global Nuclear Industry Have Made Nuclear Safety (Like Non-proliferation) an Inherently International Activity.
- Nuclear Safety Is Tied to *Effective Organization and Management* at the Plant or Enterprise Level; and to *Sound Economics* -- Making the Plants Profitable Enough to Permit Continued and Long-term Investments in Maintenance and Training.
- Regulation is an Important Aspect of Nuclear Safety, but is *Not The Most Important*.
- Western Regulatory Assistance has Compensated Somewhat for the Negative Impact of Political Fragmentation and Economic Disintegration -- Things are Better Now than they Would Have Been Absent Assistance -- But Perhaps not Absolutely Better.
- Western Assistance Can Only Ameliorate Affects of Fundamental Economic and Cultural Conditions Which Affect Safe and Economic Production of Electricity.
- Government (International) Assistance in Nuclear Safety Cannot be Paramount. Long-term, Systematic Solutions Require Integration of FSU and CEE into World-Wide Nuclear Industry.

Nuclear Safety Regulation in the FSU/CEE[1]

	Operating Reactors	Legal Arrange-ments	Signed Safety Convention	Indepen-dence	Enforce-ment Authority	Financial Resources	Technical Resources	Human Resources	Domestic Liability	Interna-tional Liability[2]
Russia	23	1	yes	2	1	1	3	2	1	No
Ukraine	14	?	yes	?	?	?	?	?	?	No
Lithuania	2	2	no	2	1	2	2	1	2/3	Yes
Kazakhstan	1	1	?	2	2	1	1	1	?	?
Armenia	2[3]	1	yes	1	1	1	1	1	?	Yes
Czech Republic	6	3	yes	3	2	3	2	2/3	2	Yes
Slovakia	4	3	yes	3	2	3	2	2/3	½	Yes
Hungary	4	3	yes	3	3	3	3	2/3	2	Yes
Bulgaria	6	2	yes	2	2	2	2	2/3	2	No
Slovenia	1	3	yes	3	3	2	3	3	?	Yes

[1] Ordinal Rankings Reflect Strength of Regulatory Function: 1 = Nascent; 2 = Developing; 3 = Approaching Western Standards

[2] Party to the Vienna Convention on Civil Liability

[3] Reactors Currently Closed, but Government has Announced Plans to Reopen one Unit.

RESULTS AND LESSONS LEARNED

- **Creating an Adequate Safety Culture is a Long-term Effort (As in the West).**
- **Introducing Western Safety Culture is Extremely Difficult, Absent Restructuring of Energy Economy.**
- **Western Approach to Safety Will Require Paradigm Shift in Attitudes From Statist Orientation to Market System of Resource Allocation, Coupled with Government Regulation.**
- **Eastern Europeans Have Succeeded in Effecting this Transformation; Russia and Ukraine Have Not.**
- **Need to Assure Adequate and Predictable Resources for Regulators.**
- **Activities of Western Donors Need to be Better Coordinated.**
- **Need to Develop Means for Measuring Results; to Focus Efforts and to Maintain Support for Continued Assistance.**

PANEL ON NUCLEAR SAFETY AND RESTRUCTURING

NUCLEAR INDUSTRY RESTRUCTURING

JANUARY 6, 1995

KRISTEN SUOKKO, DIRECTOR
INTERNATIONAL PROGRAM
OFFICE OF NUCLEAR ENERGY
UNITED STATES DEPARTMENT OF ENERGY

OBJECTIVES OF INTERNATIONAL SAFETY PROGRAM

- Comprehensive improvement in safety culture, power plant operation and physical condition, and infrastructure in countries operating Soviet-designed reactors, while encouraging shutdown of riskiest units.
  - *Address near-term risk, including fire safety*
  - *Strengthen regulatory capabilities*
  - *Enhance ability of countries to help themselves*
  - *Impact underlying causes of inadequate safety*

DESCRIPTION

- 1989 Department of Energy began safety cooperation under Joint Coordinating Committee for Civilian Nuclear Reactor Safety
- 1992 Lisbon Initiative launched
- Activities coordinated by Department of State, funded by AID, implemented by Department of Energy and Nuclear Regulatory Commission
- Areas of Concentration
  - Near-term risk reduction
  - Operational Safety
  - Regulatory improvement
  - Training
  - Fire protection
- Funding

FY	91	92	93	94	95	96
CEEC	650K	2.8M	3.6M	3.65M	--	--
Russia/Ukraine (obligated)	--	21.9M	25M	30M		
Russia/Ukraine (anticipated)	--	--	--	45M	8.5M	8.5M

RESULTS AND LESSONS LEARNED

Results in Near-term Risk Reduction/Fire Safety

- Confinement leaktightness at Kola
- Radiation monitors at Kola
- Backup power supply at Kola
- Plant analyzer at Kozloduy
- Fire safety equipment at Smolensk, Zaporozhye, Kozloduy

Results in Operational Safety/Training

- Emergency Operating Instructions at Novovoronezh
- Five additional sets being developed
- Three courses completed for Russia and Ukraine
- Training in Bulgaria, Czech Republic, Hungary, Slovak Republic
- Ten additional courses FY95
- Full-scope simulator for Khmelnitsky

Lessons Learned

- Need for permanent solution to liability problem
- Insufficient resources to solve all problems
- Need for indigenous analytical capability
- Need for performance measures
- Importance of industry participation (in U.S. and host country)
- Importance of regulator
- Need for market reform
- Need for longer-term assistance

IMPACT AND BROADER SIGNIFICANCE

- Internationalization of nuclear safety issue
- Improved operational safety and fixes to some technical problems
- Enhanced awareness of nuclear safety culture

Potential to:

- *Increase gains to U.S. from reverse technology transfer, joint ventures*
- *Enhance stature of regulator*
- *Enhance indigenous ability to evaluate safety and make decisions about shutdown*
- *Strengthen international liability regime*

GORE-CHERNOMYRDIN COMMISSION

- *Business development*
- *Defense conversion*
- *Energy policy*
- *Environment*
- *Health*
- *Science and Technology*
- *Space*

- *new as of Dec. 94: Agriculture*

GCC ENERGY POLICY COMMITTEE -- Approach

- *Use the Commission as a vehicle for communicating effectively, regularly, and in detail at a high level*

- *Inter-agency approach*
  Vice Chair: Assistant Administrator Thomas Dine
  Nuclear co-chair: NRC Chairman Ivan Selin

- *Cross-fertilization (BDC, Environment, DefConv)*

GCC ENERGY POLICY COMMITTEE -- Objectives

- *Reduce the risks of nuclear power and facilitate the dismantlement of nuclear weapons*
- *Create a business environment to further economic reform and attract Western investment in the energy sector*
- *Encourage environmentally safe and efficient production and use of energy*

GCC ENERGY POLICY COMMITTEE -- Activities

- ***Reduce the risks of nuclear power and facilitate the dismantlement of nuclear weapons***
  - *Plutonium production reactor shutdown*
  - *Nuclear safety program*
  - *Materials control, protection, and accounting*
  - *Joint Energy Alternatives Study*
  - *Agreement on warhead safety and security*
  - *Industrial Partnering Program*

GCC ENERGY POLICY COMMITTEE -- Activities

- ***Create a business environment to further economic reform and attract Western investment in the energy sector***
  - *Cooperation on legal and regulatory framework for the oil and gas sector (i.e. Energy and Law Conference)*
  - *Restructuring and privatization of the electric power sector (AID)*
  - *Oil and Gas Technology Center*
  - *Cooperation on creation of competitive energy markets (under development)*

GCC ENERGY POLICY COMMITTEE -- Activities

- ***Encourage environmentally safe and efficient production and use of energy***
  - *Conference on Arctic oil and gas development (AID, EPA)*
  - *Commodity Import Program (AID)*
  - *Energy efficiency policy cooperation*
  - *Efficiency codes and standards*
  - *Efficiency investment projects (critical involvement of AID/CIP, TDA)*
  - *Renewable energy technical cooperation*
  - *Renewable energy investment projects*

Trade & Development Agency: Lois Varrick, *Country Manager, CEE*

December 1994

THE TRADE AND DEVELOPMENT AGENCY IN THE NEW INDEPENDENT STATES

Introduction

The Trade and Development Agency (TDA), an independent U.S. Government agency, provides funding for U.S. firms to carry out feasibility studies related to major projects in developing and middle income countries. By providing assistance in project planning, TDA promotes economic development; at the same time, TDA helps U.S. firms get involved in projects that offer significant export opportunities.

TDA has programs throughout the world, and in late 1991 was authorized to operate in the New Independent States (NIS) of the former Soviet Union. The basic TDA program for the NIS is described below.

Feasibility Studies

TDA provides funding, in the form of non-reimbursable grants, for studies to determine the technical, economic, and financial feasibility of major projects and to provide detailed data for making decisions on how to proceed with project implementation. Historically, most TDA projects have been public sector undertakings, planned and implemented by government ministries or agencies. Increasingly, however, developing countries, including some of the NIS countries, have begun to promote private sector involvement in major infrastructure and industrial projects. Consequently, TDA now considers funding for both public and private sector projects, including joint ventures in which U.S. companies plan to take equity.

An official request for TDA assistance must be made directly to TDA by the appropriate host country sponsoring organization (government or private sector). While no formal application form is required, a description of the proposed project should accompany the official letter of request, as this will facilitate and expedite the TDA review process. In some cases, a U.S. company may already be working with the host country organization on the project. In these instances, the U.S. company should submit a separate proposal to TDA following an outline which is available from TDA. At this stage, TDA conducts a preliminary internal review of the project to see whether it appears to meet TDA criteria.

On selected projects, TDA then dispatches a short-term mission of technical specialists (Definitional Mission or DM) to visit the host country to gather additional information on the project, work with local authorities to develop a scope of work and budget for an appropriate feasibility study, and make a recommendation to TDA concerning funding of the study. On some projects, there is already sufficient information available to allow

TDA to hire a technical specialist to perform a quick review of the project without leaving the United States. This "Desk Study" substitutes for the DM.

The DM or Desk Study ascertains whether a given project meets TDA's funding criteria. These criteria are: (1) that the project represents a developmental priority for the host country; (2) that financing for the project itself has been identified and is available if the study suggests project feasibility; (3) that the potential for U.S. exports during project implementation is significant (In the NIS, TDA will only consider projects with potential U.S. exports of at least $10-15 million.); and (4) that TDA has a facilitative role to play, without which the project would not move forward with U.S. involvement. The project also must be endorsed by the appropriate U.S. Embassy or Consulate.

If TDA decides to provide funding for a feasibility study, it signs a grant agreement with the relevant host country entity (the Grantee). After signature of the grant agreement, the Grantee selects the U.S. firm to carry out the study or consultancy. Often this is done through a formal competitive selection process. Typically, this entails publication of a request for proposals for the study in *Commerce Business Daily*. In some cases, particularly in projects involving potential equity investment by a U.S. firm, the Grantee has already identified the firm to carry out the study, and a formal competitive selection process is not required. In either case, the selected U.S. contractor signs a contract with the Grantee to carry out the feasibility study.

It should be kept in mind that while the grant agreement is signed by TDA and the Grantee, no funds are actually transferred to the Grantee. Instead, the U.S. contractor carries out work under its contract with the Grantee and submits its invoices to the Grantee, who, if satisfied with the work, approves the invoices and forwards them to TDA, which then pays the contractor directly in the United States.

Because of the great demand for TDA funds in this region, in most cases TDA requires cost-sharing, i.e., TDA only partially covers the cost of the feasibility study, with the remainder of the cost being borne by the U.S. company carrying out the study.

Other Activities

Where appropriate, TDA may provide funding for technical seminars, conferences, or orientation visits to the United States. Such funding generally is provided through non-profit entities, such as trade associations, in the United States.

Sectoral Focus

TDA has developed the following list of high priority sectors for its activities in the NIS:

- Oil and Natural Gas (including production, pipelines, refineries, etc.)
- Power Plants and Distribution Networks
- Transportation Infrastructure
- Defense Conversion
- Health Care (pharmaceuticals, medical equipment, etc.)
- Electronics (computers, process controls, etc.)

CENTRAL EUROPE

December 1994

INTRODUCTION

The U.S. Trade and Development Agency (TDA) is a commercially-oriented U.S. Government foreign assistance agency. It promotes economic development and trade in developing countries by providing grants for feasibility studies, consultancies, training programs, and other project planning services.

TDA has provided assistance to a wide range of high priority sectors while maintaining a commitment to environmentally sound and sustainable development. These include, but are not limited to:

- Telecommunications
- Energy Development
- Food Development
- Minerals Development
- Industry
- Transportation
- Educational Technology
- Waste Management

In Central Europe, TDA assists U.S. firms by identifying major development projects which offer large export potential and by funding U.S. private sector involvement in project planning. This, in turn, helps position U.S. firms for follow-on contracts when these projects are implemented.

TDA provides funding, in the form of non-reimbursable grants, for studies to determine the technical, economical, and financial feasibility of major projects and to provide detailed data for making decisions on how to proceed with project implementation. Historically, most TDA projects have been public sector undertakings, planned and implemented by government ministries or agencies. Increasingly, however, countries in Central Europe have begun to privatize major infrastructure and industrial projects. Consequently, TDA now considers funding for both private and public sector projects.

The host country government or private sector entity may make an official request for TDA assistance directly to TDA or to the U.S. Embassy. While no formal application form is required, a description of the proposed project accompanying the official letter of request will facilitate and expedite the TDA review process. In some cases, a U.S. company may already be working with the host country organization on the project. Under these circumstances, the U.S. company should submit a separate proposal to TDA following an outline available from the agency. TDA will conduct a preliminary internal review of the project to see whether it appears to meet TDA funding criteria. Typically, TDA then dispatches a mission of technical specialists (the Definitional Mission/DM) to the country to assess the project's compatibility with TDA funding criteria. The DM gathers additional information on the project, works with local authorities to develop a scope of work and budget for an

TDA FUNDING CRITERIA

1) The project represents a developmental priority for the sponsoring country.
2) Project financing has been identified or is likely if the study suggests feasibility.
3) The potential for U.S. exports during project implementation is significant.
4) TDA has a facilitative role to play, without which, the project would not move forward with U.S. involvement.

CENTRAL EUROPE (cont'd)

appropriate feasibility study or consultancy, and makes a recommendation concerning TDA funding of the study. On some projects, there is already sufficient information available for TDA to hire a technical specialist to perform a quick review, or Desk Study, of the project without leaving the United States.

If TDA decides to provide funding for a feasibility study, it signs a grant agreement with the revelant host country entity (the Grantee). Up to 20 percent of the grant is available, when needed, to enlist the participation of host country private sector enterprise. This grant provision encourages joint venture cooperation.

The Grantee, rather than TDA, then selects the U.S. firm to conduct the study under approved competitive bidding procedures. This usually entails an advertisement of the study or consultancy in the *Commerce Business Daily* and the eventual selection of the top-rated firm who has submitted qualification statements and detailed proposals to the Grantee. In some cases, particularly in projects involving potential equity investment by a U.S. firm, the Grantee has already identified the firm to carry out the the study and a formal competitive selection process is not required. In either case, the selected U.S. firm signs a contract with the Grantee to carry out the feasibility study.

Although the grant agreement is signed by TDA and the Grantee, no funds are ever transferred to the Grantee. Instead, the U.S. contractor submits its invoices to the Grantee for approval and then forwards them to TDA. TDA then makes payment directly to the contractor.

OTHER ACTIVITIES

In situations where neither a feasibility study nor a consultancy is appropriate, TDA may provide funding for technical seminars in either the U.S. or in the respective Central European country. In addition, TDA may sponsor orientation visits to the U.S. for key Central European project managers. TDA also considers project- oriented technical training.

FOR MORE INFORMATION

For information on the TDA program in Central Europe:

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Luncheon Speaker: Paul Ashin, *Senior Coordinator for Social Systems Restructuring, Office of Program Coordination and Strategy (ENI/PCS), ENI Bureau, USAID,* Social Systmes Restructuring

I. Background: Social Transition and Social Pain

The transition from command to market-based economies in the countries of the former Soviet bloc has been accompanied by a lowered quality of life for significant segments of their population. The world has seen too many pictures of impoverished pensioners, undersupplied hospitals, and newly poor or unemployed factory workers to rest indifferent to the social pain that has come about. Besides the real humanitarian impulse, policy-makers have become aware of the enormous threat to the completion of the transition posed by this pain. The threat to reform may differ in different countries, but every strike, every change in government, and every slowdown in economic restructuring testifies to the close connection between the social sector and the success of the reform effort. Without remedies for social pain, the transition to free markets - and the parallel transition to democracy - will sputter, stall, and perhaps even be reversed.

This puts such remedies on the agendas of policy-makers in Eastern Europe and the NIS, and on the agenda of those in the West who want to help them in their path to reform. However, such a task requires a precise analysis. First, the task is the reduction, rather than the elimination, of social pain. The transition will not be painless, nor can we construct a strategy that implies the opposite. Second, the alternatives are limited, and do not include the perpetuation of the exiting social systems. Finally, while the pain looks like a single phenomenon, it is really a composite of different developments which have different sources. Otherwise we will not be able to contribute to its mitigation.

Three causes of social pain seem to be most salient. First and most immediate in most countries, there is poverty caused by **inflation**, itself chiefly the result of bad economic policy. Second, is the poverty caused by **unemployment**, which is differentially present, concealed, or threatened in the various countries as they go through their process of economic restructuring. Finally, the mechanisms these systems had to alleviate social pain are poorly oriented toward market economics and are in an accelerated state of **administrative breakdown**, which leads to disillusionment as peoples' expectations of government action - based either on traditional benefits or optimistic projections about the transition - are not met.

Most people in the former Soviet bloc see **inflation** as a result of reform, since liberalization of long-fixed retail prices was a key element in the reform package. This perception, while politically powerful, is only partly accurate. In part, inflation in transitioning command economies was conditioned by the monopoly structure of production, which frustrated the movement towards competition that liberalization was designed to stimulate. By far the larger source of inflation, however, has been the loose monetary and credit policies of host governments, which have financed large budget deficits by running their printing presses. The sources of the budget deficits are various, but the subsidies (either direct or indirect) going to non-profitable industrial and agricultural enterprises on the state dole have been a major component in them, as have the expenses of underfunded public pension programs.

Economic restructuring at the enterprise level has occurred to varying degrees in various countries, but is a key to a healthy economy in all cases. Given present productivity levels, employment patterns, and inefficiencies, this restructuring involves layoffs - some massive, and some having devastating regional effects. In most countries, and certainly in Russia, this stage of economic restructuring has not yet been reached. However, it is already present in concealed form, as some factories are resorting to extended unpaid leave or simply wage arrears to deal with their bloated work-forces. In addition, the politically powerful threat of mass unemployment looms over the economic landscape, and has kept policy-makers from fully committing to reform measures. They appear to find it much easier to maintain subsidies to enterprises that are unprofitable than to risk the social dangers posed by masses of unemployed in one-factory towns.

One reason for continuing these inflationary subsidies rather than risk unemployment is that the **administrative structures** for dealing with such social problems are weak or absent in former command economies. In Communist systems, direct social services and benefits were less significant than the support these systems provided indirectly, and at great economic cost, through fixed prices and artificial levels of employment. As prices and production became more market-driven, the burdens on social systems have increased accordingly, and few have been able to adjust easily. Old structures have had to deal with new needs and that new structures have had to be created from scratch. In most cases, this has translated into a lower level of social support for the population during a period when they both needed and expected more.

All of these issues indicate that changing post-communist social service delivery and financing must be done systematically, with fiscal and administrative questions occupying a key role. This is not simply a matter of supplying a temporary social safety net to help people through the transition to market capitalism, although some short-term support may be warranted. More basically, these societies need to effect a systemic and systematic change in the way in which they perform their social functions - as well as rethink the level and role of social support they supply. Communism was a system based on, and deriving its legitimacy from, the maintenance of universal social welfare. The social contract that resulted emphasized egalitarianism over entrepreneurship and security over growth. It is perhaps not surprising that the attempt to transform the economic sphere systematically should involve a fundamental restructuring of the social sphere as well.

The role of outsiders is circumscribed by the centrality of these decisions to a nation's self-definition, the scope of the resources necessary to address these issues, and the need to make systems of social protection sustainable in the long run. We can provide technical expertise for some details of the transition, but the fundamental political decisions and choices have to be indigenous, as does the ultimate financing of the system. Moreover, even the provision of technical expertise must be undertaken with sensitivity, and with a high level of donor coordination.

II. Problem Overview:

The state, at various administrative levels, was at the center of the Communist economic system, both in the production and the distribution of goods and services. In general, the systems for social protection were integrated into the systems for goods distribution through the maintenance of low prices on commodities, and into the production systems through the maintenance of full employment. In addition, the factory or state farm was usually the source or administrator of numerous other subsidies and social benefits, including low-cost housing, day care, and health services. Specifically, the state provided several flows of resources that affected the provision of social services.

The first was the provision of subsidies directly to enterprises engaged in industrial or agricultural production. These subsidies, either in the form of subventions or credits, allowed unprofitable enterprises to maintain full employment. In this manner, some part of the wages bill in state-owned enterprises (SOEs) must be seen as part of government-provided income support. In addition, since one part of enterprise "costs" included a variety of social services, these subsidies financed some portion of housing, daycare, and some health care for unprofitable factories.

The second was the provision of subsidies to wholesale or retail trade outlets. These allowed the maintenance of fixed, below-market-level, prices on a whole range of commodities. (For the time being, the provision of subsidized municipal housing and utilities will be included in this second batch of resource flows, even though the mechanism was different).

The third was the more traditional provision of a series of cash benefits (pensions, disability payments, family allowances, etc.) to the population, without any means testing. As formal unemployment (not derived from disability or age) was not permitted under Soviet-style economies, there was no cash benefit associated with it.

A fourth way in which the state provided social benefits to the population was through the free provision of health care. Some of the fixed costs of health care were covered by enterprises under the first flow of resources, another part of the fixed and almost all of the recurrent costs were supplied through the budget allocation to the Ministry of Health.

The state's role was also central to the financing of these benefits, as individual direct contributions tended to be small. Under Communism, state revenues came not only from its tax authority, but also from its residual claims on the profits of SOEs.

These systems had three problems. The first is that they supplied untargeted benefits to all elements of the population, regardless of income or productivity. This contributed to fiscal problems for governments, skewed incentive structures for workers, and was generally neither progressive nor productive. The second is that they did NOT supply a number of the very important protections typical of the kind of market-oriented economic systems that these countries are attempting to create. Chief among these were unemployment insurance and

adequate or appropriate investment opportunities on which pension funds could be based. Finally, they were inadequate to the heightened demands of the transition. On the one hand, inflation is weakening pensions and health care provision. On the other hand, growing unemployment can cut workers off from access to enterprise-based benefits, and puts new stress on social systems.

III. Objectives:

A differentiated analysis of the problem also reveals differentiated USG objectives. The fundamental distinction is between political and humanitarian motivations. While not mutually exclusive, they do have different programmatic implications and setting the proper point of balance between them is a critical challenge.

One USG motivation for involvement in this area is to attempt to make economic reform more politically viable, or, in extreme cases, to moderate potential "backlash" against reform. Political leaders's willingness to dismantle old economic systems that provided social services will depend both on their willingness to challenge population expectations based on the old social contract and on the presence of new mechanisms to meet those needs. Thus, presenting a new, viable model of such mechanisms will help to secure the economic transition.

A second USG motivation is humanitarian. In every former Communist country, there are those who - whether as a result of the transition or not - are currently suffering and at risk. Social sector programs, alongside direct humanitarian assistance, are mechanisms for alleviating that suffering and mitigating that risk.

While these elements do not automatically contradict each other, and while some activities could address multiple elements, there may be some tradeoffs between them. For example, politically significant and vocal groups may **not** be those most needy or hardest hit by reforms. In many countries, for example, coal miners are simultaneously better off than single mothers and more likely to topple a government.

IV. Programming principles:

- USG engagement in the process of helping NIS and CEE countries ~~in~~ rethinking their social systems should not be mistaken for a USG commitment to funding a social safety net in these countries. Social services and benefits must ultimately be indigenously financed to be sustainable, and if foreign transitional financing is indicated, it can only be an IFI endeavor.

- Since inflation is a key cause of social pain, the need for social protection cannot be translated into increased fiscal laxness. It will be an idle exercise, and one that ends up harming the population more, if improved programs of social protection simply translate into higher budget deficits, larger monetary emissions, and increased inflation. The kinds of

policies that we wish to support are policies that **reduce** budget deficits while they provide social protection. In many cases the present systems are sufficiently badly structured that such a policy change could be feasible.

- The key element in making social protection fiscally responsible is the substitution of targeted benefits for untargeted subsidies, either delivered through fixed prices (including fixed rents) or through fictive wages. This is a policy that does double-duty. On the one hand, it lowers inflationary pressure, which contributes to the general welfare. On the other hand, it directs the resources for social protection to those who are most affected by the transition. In general, the available estimates indicate that targeted programs are much cheaper than the present system. As recently as 1993, Russia spent 22% of its GDP on enterprise subsidies and another 21% on low-cost enterprise credits. In contrast, programs labeled as social protection only cost 7% of GDP. The OECD average for social protection spending is roughly 14% of GDP. The scope for reallocating resources seems to be considerable. For example, World Bank estimates are that a flat-rate unemployment benefit would cost only 0.2% of GDP for every additional 1% of employment.

- Job-creation measures and economic growth will be the only permanent solutions to unemployment. In part, this links with the restructuring of old factories, in part with new business development. In some areas, especially those of high regionally concentrated unemployment, appropriately structured temporary employment programs (TEPs) may need to be utilized, at least in the short-term.

- The social protection of the population in transitioning command economies involves a mix of short-term, mid-term, and long-term policies. In the short-term, immediate humanitarian concerns and poverty alleviation may be the central feature in a number of countries. In the mid-term, the support of those who experience temporary downward mobility during the transition may be key. In the long-term, all of these countries will need new mechanisms of providing social services that are compatible with the market economies that they are developing.

- The development of such new programs as unemployment services, the setting of older services such as health and housing on new principles, as well as the fiscal issues raised in paragraph 3, are all part of the larger issue of improving public administration. Any restructuring of the social sector to operate within a market environment will make serious new demands on the present systems of administration. Unless those systems are improved to deal with these new demands, the reforms will fail.

- Any new social systems that are put in place should be tailored with an eye to their labor market effects, and benefits and TEP wages need to set in order to minimize disincentives to rejoining the permanent workforce.

- The scale and complexity of these problems makes bi-lateral and multi-lateral donor coordination essential.

V. Strategic Framework

A comprehensive transformation of a post-Communist social sector would therefore involve sequenced movement on a number of fronts. Among the key areas would be:

Curtailing government subsidies
Restructuring benefits systems
Reforming the fiscal system
Enhancing social service delivery
Stimulating private sector involvement
Reassigning enterprise social assets

The utility and feasibility of technical assistance would vary by area as well as by country. It is also clear that there are certain areas in this mix where the US has a comparative advantage as a TA provider, and other areas in which it does not. These considerations will be the subject of later sections of the paper. For now, the idea is to get a picture of the transition as a whole, and the actions that will have to be taken - by someone - to effect the necessary changes.

Curtailing government subsidies

The curtailing of government subsidies to retail trade (price liberalization) and to enterprises is the key to achieving an indigenously financed, market-compatible, appropriately targeted social sector. Only by relieving the state budget of such charges can inflationary pressure be diminished and fiscal room be found for the new spending that will be necessary for unemployment relief, for example. Moreover, such subsidies skew incentives and signals to producers and consumers, complicating movement towards a free market.

Post-Communist governments divide into those which still maintain the pattern (if not the level) of direct government subsidies to enterprises and trade organizations, those that supply subsidies indirectly (largely through directed, concessional, central-bank credits to enterprises), and those which have largely succeeded in curtailing all budgetary support to enterprises and retail trading organizations. The differences are best addressed in separate country treatments. One important general point is that, absent a strict wages policy or hard budget constraints on enterprises, the curtailing of subsidies to retail trade alone is insufficient, since it will usually be compensated for by wage growth ultimately financed from the state budget.

Indirect subsidies can either represent a weakening of will on the part of a reforming government, or a planned stage in a phased movement towards complete curtailment. In general, it would appear desirable that subsidy curtailment be approached in a phased, gradual manner, since simultaneous overnight price liberalization AND a hard budget constraint on enterprises would undoubtedly lead to unacceptable levels of social pain and unrest.

This key process must be considered one of the politically most difficult and explosive aspects of the transformation of the social system. The sectors that have received subsidies, especially industrial and agricultural producers, tend to retain their bureaucratic political power in post-Communist systems, partly because of the strong webs of patronage and common background that links the (largely unchanged) political elites of these countries. New, elected legislative organs also create opportunities for opportunistic populist appeals for price controls or bankruptcy bailouts, although legislatures can also confer legitimacy on unpopular policies, if the deputies and their constituents can be persuaded of their necessity. Finally, this is an issue around which mass political action outside the electoral framework could well be mobilized. One particularly important problem is the potential that this issue has for uniting the interests of management and labor in favor of the maintenance of subsidies.

Curtailing of government subsidies is a necessary, but not a sufficient, element of social systems restructuring. It is not guaranteed that money thereby saved will be used on new social needs, for example. However, such a package has the potential of being politically more palatable than simple curtailment, however economically necessary it may be.

Restructuring benefits systems

The benefits systems of post-Communist countries require significant changes to become market-compatible, and indeed, market-supportive. On the one hand, as the welfare functions imbedded in government subsidies are eliminated and new needs for social support emerge with the market, these are the existing mechanisms best positioned to take up the slack. On the other hand, unless they radically restructure the ways in which they do business, the new requirements will bankrupt the government.

Looming over all the specific changes are two overarching imperatives. While formerly, benefits were provided to the entire population, regardless of means, now benefits will have to be targeted towards those who are truly needy. This flows from the other imperative, which is that the amounts spent on benefits have to be adjusted to the ability of the country to finance them; i.e., benefits need to be fiscally sustainable.

The specific changes that will be necessary fall into two categories. First, there are those benefits which were traditionally supplied by the Communist system, now need to be transformed, but are likely to retain a high level of state involvement. These would include pensions, family allowances, and health, but would not include "benefits" such as housing which are likely to be privatized. Secondly, there are those benefits that never were supplied under Communism, which are now necessary. The most important of these are the variety of activities surrounding unemployment. In addition, few of these countries dealt with poverty relief in a systematic way and are now facing an increasing need to do so.

Without creating a catalogue of changes, the following specific issues are worth noting. The retirement pension schemes in these countries are either active or potential budget-busting

liabilities. They are all single-tier, state-managed, pay-as-you-go systems, vulnerable to the demographic balance between active workers and retirees and promising high rates of wage replacement. Such mechanisms are poorly suited to bear the entire load of retirement income for people even in market-based economies and have been spectacularly inadequate in dealing with the levels of inflation currently experienced in reforming post-communist countries. This tier needs reform, and the possibility of introducing supplemental investment-based retirement vehicles needs to be explored in each case. Disability pensions, while a lesser charge on the budget, tend to be are relatively generous and weakly monitored, which leads to potential for fraud. Most countries in this group offer various forms of cash allowances directly to families, most of which are still universally offered to the entire population. Health care, having been a universal, free, non-cash benefit deeply embedded in the social contract, is a transformation of particular complexity. Politically acceptable levels of private provision, individual contribution, and social support (to chose just three parameters) are far from determined in any country, and need to be developed before the transition can progress.

The key new social service systems revolve around the new phenomenon of unemployment. These would include the creation and institutionalization of various forms of unemployment services, the creation and financing of an unemployment insurance system, and (in some cases) the introduction of temporary employment programs (TEPs). Alongside unemployment, it should be noted that most of these countries never acknowledged the possibility of poverty, and supported incomes though the subsidies noted above. This pattern not only left them without a means-tested benefit of last resort, but it has also skewed all other cash benefits levels, since poverty relief has been integrated into minimum pensions, allowances, and even wages. Given the high administrative costs of means-testing, and given the high present correlation of family size and poverty, it might be possible to turn the family allowance programs into a roughly targeted form of poverty relief by limited them to larger families. The development of such a benefit is not only a necessary element of any long-term system of social protection, it can also be an important, administratively-efficient, short-term mechanism for dealing with the short-term poverty until more sophisticated unemployment, pension, and other benefit systems can be implemented.

Reforming the fiscal system

That part of social sector expenditures that will remain financed and administered through the public sector will require appropriate expenditure management and, especially, appropriate and transparent mechanisms for revenue collection. This means that social sector restructuring and fiscal reform are inextricable linked. Indeed, social sector expenditures will undoubtedly remain a significant line item on any comprehensive public sector balance sheet. Again, these expenditures will only be feasible if linked to the other major fiscal reform - curtailing government subsidies.

While the current situation varies by country, some general similarities can be noted. First, most of the cash benefits are supplied by off-budget funds financed by high dedicated payroll taxes. Their fiscal implications are not usually noted until these funds go into deficit and

require budget subventions. However, the high tax burden these expenditures place on enterprises does have substantial effects on general tax compliance, the government's ability to generate additional revenue, and its flexibility in restructuring fiscal policy. They also clearly impair the firms international competitiveness, and thereby hamper economic growth.

Among the key fiscal issues relevant to social sector expenditures are the enhancement of revenue collection and tax compliance, the appropriate intergovernmental assignment of expenditure responsibilities and revenue resources (fiscal federalism), and improving expenditure control and budgeting ability in the social sector. A related issue would be the issue of financial control over extra-budgetary funds.

Health care financing is a special case under this rubric. All communist systems financed health care out of general tax revenues, but each country is now in the process of determining the scope and role of the public sector in health care finance. While it seems clear that there will be a significant public sector role in all of these countries for a long period of time, the ultimate end point of the transition may differ in different countries, as may the various intermediate mechanisms.

Enhancing social service delivery

Besides the policy issues described above, there are a number of managerial, administrative, or delivery issues that need to be addressed as part of the transition to a market-compatible social sector. In part, these reflect the inefficient incentive patterns that pervaded all command economies and created cumbersome reporting and managerial structures. In part, these issues derive from the breakdown of administrative systems that has been typical of the post-Communist transition and has affected the provision of social services.

A successful transition to a functioning social sector therefore involves some long-term restructuring to achieve efficient administrative forms that are appropriate to new roles and procedures. It also may involve some shorter-term remediation to restore acceptable levels of performance. It would be preferable if these latter remediations were crafted with the longer-term transitional goals in mind, and did not simply attempt to return to business as usual. One important feature of this short and long term approach to the improvement of social service delivery is insuring an adequate level of social services (especially health care) during the transition to a new, market-compatible social sector.

Stimulating private sector involvement

The transition in post-Communist social sectors must also involve the determination and introduction of a substantial role for the non-public sector in the provision of social services and benefits. This would include the creation and strengthening of a non-government organization (NGO) sector than had the legal basis and administrative capacity to take on social service activities. This would involve giving these organizations the ability to tap a

voluntary donor base for financing, and also to compete for government contracts in social service provision in those areas in which they have a comparative advantage over public sector entities.

This would also include the privatization of municipally-owned housing and utilities, which would also lower the amount of government subsidies provided on a universal basis. Stimulating the involvement of private providers and (where appropriate) financing mechanisms in health care could also fall under this rubric, as might private sector involvement in the management of funded tiers of the pension system. And while economic development is only a social sector program in the broadest sense of the term, it should be noted that the best solution to unemployment is the private-sector creation of new jobs, largely through new business development.

Reassigning enterprise social assets

Given the role of enterprises in the provision of social services under Communism, and given the fact that all such enterprises were state owned, the divestiture of enterprise social assets is an important element in the transition to a market-oriented social system. However, the issue is not simply the divestiture of assets, but also their assumption by other entities which are capable of supplying those socials services that are still necessary. In addition, as assets and attendant responsibilities are reassigned, care must be taken to insure continued individual access to the assets and or benefits during the transition period.

Enterprises have a wide array of assets on their books, many of which may require different forms of disposal. The largest single asset is enterprise-owned housing, which is linked with the largest single social liability - the ongoing costs of building maintenance. In addition, enterprises run day care/kindergarten facilities for their workers, gave space to primary health care clinics, and owned sanatoria/vacation facilities to which employees were allowed to go. Some, but far from all, of these assets are best devolved to the public sector, others will need to be privatized to individuals, yet others could be the basis for profit-making firms, which might either be subsidiaries of the parent enterprise or not.

One special case in this area is the collective farm, which, unlike most industrial enterprises, was both economic enterprise and local government body. Social asset reassignment under these circumstances poses special challenges that will need to be addressed. While not identical de jure, it is probable that urban areas dependent on one industrial factory will have similar problems de facto.

Closing Remarks

by: Robert F. Ichord, Jr.

This Program Review has highlighted the significant challenges we face in this new year.

I would emphasize five main tasks:

1. sharpening our approach to restructuring and developing mechanisms to transfer information among country programs;

2. integrating more effectively our efforts in energy efficiency with our restructuring focus and improving coordination of US Government programs;

3. developing an effective system of indicator country targets and activity monitoring for Bureau management, OMB and Congress;

4. supporting US Government initiatives in the Gore-Chernomyrdin Commission and the Ukraine G-7 Energy Action Plan;

5. cooperating with the environment and urban development division on cross-cutting issues such as district heating and municipal finance.

Thank you all for your participation in this Energy Program Review.

ENI STRATEGIC FRAMEWORK FOR ASSESSING PROGRAM IMPACT

INTRODUCTION

The ENI Strategic Framework provides a set of clearly specified objectives for the entire ENI portfolio and explicit criteria for measuring progress toward their achievement. This framework will inform program planning, monitoring and evaluation tasks at the regional, sector and country levels and assist ENI management to manage for results and demonstrate program impact to external audiences.

ENI STRATEGIC FRAMEWORK

ENI has constructed an analytical framework which links project components and activities to comprehensive program objectives. This framework includes five types of information:

1. **Strategic Assistance Areas.** The highest order of objective corresponds to the three broad programmatic areas enshrined in the FREEDOM Support and SEED acts: economic restructuring, democracy building, and social sector restructuring. Each strategic area has a goal statement. For example, the goal in economic restructuring is:

> *Foster the emergence of a competitive, market-oriented economy in which the majority of economic resources are privately owned and managed.*

2. **Program Objectives.** Because these three strategic areas are so broad, ENI has developed program objectives that add specificity to what the program seeks to accomplish in each strategic area. There are six program objectives in the economic restructuring area, four in democracy, and four in the social sectors. These objectives transcend individual projects/project components, although not all program objectives are relevant in all country programs. An example of a program objective is:

> *Establish a business environment which supports private sector growth.*

3. **Impact Indicators.** These specify what will be measured to assess program impact. For each program objective ENI has identified up to ten indicators. The idea is to have a menu of indicators available. Those that are relevant and measurable in a given country would be used for that country's program. An example of an impact indicator is:

> *Competitive pricing for efficient use of energy resources.*

4. **Country-specific targets.** Targets should be measurable and objectively verifiable to help gauge whether progress is being made toward a program objective. They can only be meaningfully set in a specific country context. It will make sense to set successive periodic targets if the data are available on a periodic basis, e.g., annually, and activities supporting that target are ongoing for several years. An example of a country-specific target is:

> *An agreed schedule announced to increase electricity prices toward their LRMC by late 1995. Prices raised to the LRMC by 2000.*

It is understood that activities will not hit a target exactly. But greatly exceeding or falling short of a target should draw management attention. And specifying a target at design time helps management decide if a proposed activity is really worth funding.

5. **Sources of financing.** This information links specific projects, sub-projects and/or project components to targets, impact indicators and higher order program objectives and provides a basis for linking impact assessment information to financial tracking and to country, sector, and grantee or contractor workplans. An example of a source of financing is:

> *NIS energy Efficiency and Market Reform Project 0002, Component 1: Energy pricing and policy.*

OMB EXERCISE

This Fall, ENI submitted to OMB a set of program impact indicators and country-specific targets for six NIS projects covering six countries. The exercise went well and OMB was enthusiastic about ENI's proposed approach. The bureau is now committed to completing this exercise for all projects and countries by the end of March 1995. The following sets out a schedule for completing the program impact assessment system, including adoption of country-specific

targets for all USAID-managed programs in all assisted countries in the NIS and CEE.

SCHEDULE OF ACTIONS

10/21/94	Test package of indicators and targets submitted to OMB for six projects in six NIS countries
12/23/94	Strategic framework distributed to field, ENI bureau, S/NIS, and EUR/EEA for comment under covering memo from AA/ENI, Tom Dine
12/29/94	Detailed request for country-specific targets sent to ENI Missions and AIDReps by ENI/PCS (handout available)
1/09/95	Comments on strategic framework due to ENI/PCS
1/23/95	All remaining NIS country-specific targets due back to bureau from field
1/31/95	All CEE country-specific targets due back to bureau from field
3/15/95	Country targets all entered into unified data base
3/20/95	Package transmitted to OMB

ENERGY EFFICIENCY AND MARKET REFORM: RUSSIA	
1. Pricing and Policy: Promote a balance in energy supply and demand as a result of competitive pricing.	
INDICATORS	TARGETS
Adoption of specific policies related to rational energy pricing, competitive markets, private and foreign investment, trade liberalization and environmental protection.	Development of model procedures and bid packages for oil/gas exploration by late 1995. Legislation for the privatization of electric energy production, transmission and distribution prepared by mid 1995 and submitted to the Legislature by mid 1996 and passed by early 1997. Policies governing electric power privatization activities approved by the Executive by mid 1995. An independent electric power regulatory body officially registered by mid 1996. Policies required to attract accelerated domestic and foreign investment in the electric power sector announced and implemented by mid 1995. Oil and Gas Center established to promote technology and commercial exchanges between U.S. and Russia by the end fo 1994. Organization of oil/gas data to facilitate greater foreign investment by early 1996.
Competitive pricing for the efficient use of resources as evidenced by electricity and gas prices increased to long-run marginal cost (LRMC), decontrol of oil and coal prices, etc.	An agreed schedule announced to increase electricity prices toward their LMRC by late 1995. Prices raised to the LMRC by 2000.

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2. District Heating and Energy Consumption: Improved energy efficiency and reduce energy-related pollution in industry, buildings and municipal heating systems.	
Improved efficiency demonstrated at facilities directly assisted or influenced by US AID activities.	Industry plant energy efficiency improved 5-10% in 5 major industrial facilities by late 1995; 10-25% in 10 plants by late 1996. (TBD) Power plant generation efficiency improved 5% in 5 major plants in 1995; 10% in 10 plants in 1996. (TBD) Loan prepared to mobilize lending by multilaterals to 2 gas distribution utilities by mid 1995.
Local private sector capability developed to provide energy services.	NGO Energy Efficiency Center strengthened and effectively operating with additional sources of support by late 1995. Five energy service companies and consultants received on-the-job training by late 1995. NGO Association of Energy Engineers officially registered by late 1996.
Utility demand-side management programs in operation.	Load research carried out and a demand side management program, including time of day and seasonal tariffs, designed by late 1995. Demand side management program initiated in 2 distribution utilities by mid 1996.
3. Subsector Restructuring: Help restructure, commercialize and privatize specific energy subsectors (e.g., power/heat, oil, gas, coal)	

Development of effective organisational, legal and regulatory systems for each significant subsector.	Electric power sector restructuring plan approved by the Executive by mid 1995. Legislation for the restructuring/privatization of electricity generation, transmission and distribution prepared by mid 1995, submitted to the legislature by mid 1996 and enacted by mid 1997. Electric Power Regulatory Commission registered by mid 1996; trained and fully functioning by early 1997. Permanent regulatory structure (transparent, efficient and stable) for transport of oil by pipeline designed by mid 1995 and fully functioning by late 1995. Revised tariff schedule for transport of oil thru pipeline implemented by late 1995.
Establishment of commercially vialbe energy production and distribution companies.	Transneft, the long distance oil pipeline company, restructures and commercialized by late 1996. Sidanco, a nely created vertically integrated oil company operating on sound commercial lines by late 1995. Improved coal mine safety guidelines developed by late 1995. Six electric and gas partnerships established between private U.S. and Russian companies by mid 1996. Training of over 500 senior Russian energy industry executives by early 1996.

Mobilization of private and public financing for specific electric power investment projects.	Feasibility studies prepared for six major power projects for bilateral, multilateral or private sector financing for a total value of $2 billion by late 1996. Implementation of international accounting practices in RAO ESS ROSSII, the national power company by late 1995. Russian power sector companies attracting at least $500 million in new direct foreign and domestic private investors from 1995 throught 1998.
4. Nuclear Safety: Help reduce the risk of accidents in aging civilian nuclear power reactor plants in Russia.	
Consistent and effective safety standards and procedures are adopted by nuclear regulatory authorities.	Safety standards and procedures issued by end of 1996.
Ongoing enforecement of safety standards and procedures is verified by reviews of an independent authority.	Enforcement of safety standards demonstrated consistently by end of 1996.
Operational safety at specific sites is improved, evidenced by a reduction in the incidence and severity of accidents.	The number and severity of accidents at all nuclear power facilites substantially reduced by the end of 1996. Develop and implement Emergency Operating Procedures at nuclear plants by the ned of 1996. Utilize U.S. fire hazard analysis techniques to determine safety improvements and implement improvements by the end of 1996. Install reliable D.C.Power Suppliers by the end of 1996.

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Implementing Organizations

Akin Gump	Akin, Gump, Strauss, Hauer & Feld, L.L.P.
ANL	Argonne National Laboratory
Atlantic	The Atlantic Council of the United States
B&R	Burns and Roe Company
Bain	Bain & Company
Bechtel	Bechtel Electric Power Systems
Bechtel	Bechtel Oil and Gas Systems
BNL	Brookhaven National Laboratory
Brown	Brown Consulting Group
C&S	Connelly and Simmons
C&L	Coopers & Lybrand
John Brown	John Brown Engineering and Construction
DOE	U.S. Department of Energy
EBRD	European Bank for Reconstruction and Development (The World Bank)
EEUD	Office of Energy, Environment and Urban Development, ENI Bureau, USAID
Electrotek	Electrotek Concepts, Inc.
ENI	Europe and the New Independent States Bureau, USAID
EPA	U.S. Environmental Protection Agency
Fluor	Fluor Daniel, Inc.
Gilbert	Gilbert Commonwealth
Harza	Harza Engineering Company
ICF	ICF Resources
IDEA	International Development and Energy Associates, Inc.
IIE	Institute of International Education
IRG	International Resources Group, Inc.
K&M	K&M Engineering and Consulting Corporation
MMS	U.S. Minerals Management Service
NRC	Nuclear Regulatory Commission
NRECA	National Rural Electric Cooperative Association
Paul Weir	Paul Weir
PHB	Putnam, Hayes & Bartlett, Inc.
PIER	Partners in Economic Reform
PNL	DOE/Pacific Northwest Laboratory
PTI/AEP	Power Technology, Inc./American Electric Power
PW	Price Waterhouse
RCG/HB	RCG/Hagler Bailly, Inc.
RMA	Resource Management Associates
Scientech	Scientech, Inc.
TBD	To Be Determined
TDA	U.S. Trade and Development Agency
USEA	United States Energy Association
USGS	U.S. Geological Survey
USAID	U.S. Agency for International Development
WB	The World Bank, International Bank for Reconstruction and Development