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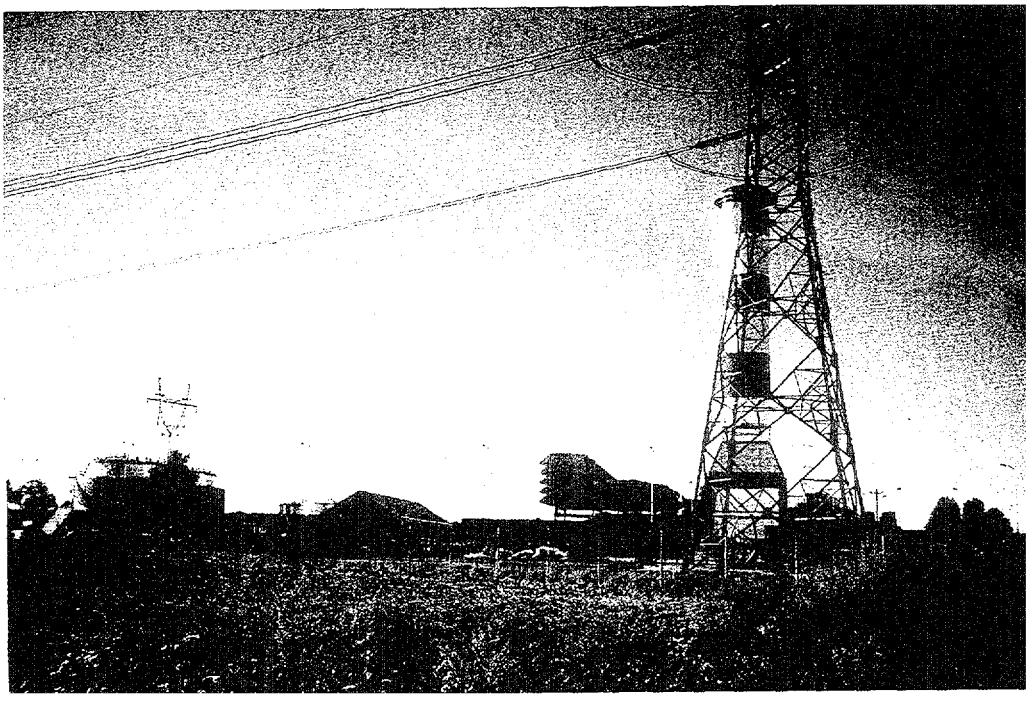
Privatization of the Power and Natural Gas Industries in Hungary and Kazakhstan



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FOREWORD

This study describes the recent privatization of the electricity and gas industries in Hungary and Kazakhstan. Its purpose is to draw lessons for other countries in the Europe and Central Asia (ECA) Region who are starting the privatization process now, and to enhance the Bank's capacity to provide support during this process. Hungary and Kazakhstan were selected for the study as the two countries that achieved the most progress with energy privatization in the region. While the time since the signing of the privatization transactions is too short to arrive at final conclusions, it is interesting to compare the different avenues chosen by these two countries to reach the same goal -- revitalizing and modernizing their electricity and gas industries through the involvement of foreign strategic investors.

In addition to the privatization transactions themselves, the study briefly describes the main elements of the broader energy reform process in the two countries. The study reflects the views (obtained through over fifty in-depth interviews) of various stakeholders, including key officials in the government agencies that represented the previous owner (the state), regulatory authorities, energy company managers, the new owners, representatives of consumer groups, privatization advisors, trade unions, etc.

Part I of the report summarizes the main features of the privatization process in the two countries, compares the policies and approaches adopted by the governments, and presents the main conclusions and lessons that can be of interest for other countries in the region. Part II and III provide more detailed descriptions of the reform and privatization of the electricity and gas industries in Hungary and Kazakhstan respectively.

Hossein Razavi
Director
Energy Department
Europe and Central Asia Region

ABSTRACT

Hungary and Kazakhstan have privatized a large portion of their electric power and natural gas industries, but have followed different strategies. What lessons can other countries learn from their experience?

These countries began their reforms from different starting points. The Hungarian power and gas sectors had a long history of being relatively well managed. In contrast, Kazakhstan inherited pieces of the old systems that were designed to serve the needs of the Soviet Union and had to develop new organizations to manage the systems.

In the power sector, Hungary can boast that it has privatized six out of its eight generation enterprises (one coal fired and one nuclear plant are still in state ownership) and all six of its distribution companies primarily to power companies from Europe and the United States. The transmission company (MVM) is still state owned and is the single buyer and seller of power on the wholesale market. In the gas sector, Hungary has privatized its single supply and transmission company that is the sole domestic producer and importer of gas (mostly from Russia). It sells gas to six regional distribution companies which have also been privatized.

Though not perfect, the privatization program in Hungary for power and gas was generally well planned, competitive, and transparent. The primary objective seemed to be to attract experienced foreign investors who could make the Hungarian firms efficient and profitable. Another objective was to obtain the highest purchase price. After a poorly conceived and unsuccessful attempt to privatize power companies in 1993, the government began again in 1995 with competitive auctions of a controlling stake (later increased to a majority stake). The privatization agency (APV) and the transmission company advised by an experienced investment banker managed the process. The primary criterion in selecting the winning bidder was the purchase price offered. This assured that the company was sold to the investor with the best plan for increasing efficiency and profitability and thus could offer the highest purchase price. A similar process was followed for the gas sector.

The government placed no conditions on how the new owners could operate the companies except concerning the work force. The government negotiated agreements with the unions that minimized labor opposition to privatization. These agreements were binding on the new owners. Also the government required the new owners to keep the existing managers for a period of two years which helped to assure that the existing management would cooperate and support privatization. After privatization, the new owners reduced employment by about 30 percent but retained most of the managers after the two-year period which is a testament to the ability of the Hungarian mangers.

The major issue concerned the regulatory regime. In 1995, retail prices were low, but the government promised to increase them to cost recovery levels in 1997 after privatization. Though faced with public opposition to such a large increase, the government eventually bowed to pressure from the investors and largely honored its promise. The major issue for the future of the power sector is how to comply with EU requirements to allow buyers to purchase directly from producers rather than through the transmission company.

In a more difficult political and economic environment, Kazakhstan has privatized about 37 of its 54 generation plants mostly to foreign companies. The integrated utility serving the largest city has been sold to the Belgian firm, Tractebel, but only a few of the other 18 or so distribution companies have been privatized. The transmission company also remains state-owned. The generation companies typically sell directly to the distribution companies and industrial firms at negotiated prices.

Because of the gas pipeline system inherited from the Soviet Union, Kazakhstan is forced to import more than half of its gas supplies even though it has large domestic reserves. The single gas transmission company is managed by a subsidiary of Tractebel, under a 15-year concession agreement. The government still owns the eight distribution companies.

Instead of competitive, transparent auctions as in Hungary, Kazakhstan has relied largely on negotiated sales. The defense of this approach is that by early 1996 the power and gas systems were on the verge of collapse due to lack of supply. The government felt compelled to bring in private owners for the power stations and gas transmission company as quickly as possible. The prices paid for the power stations are reported to be low because of high political and economic risk and the lack of competition in the sales.

The major weakness in the Kazakh strategy, however, is failure to privatize distribution where most of the bad management and inefficiencies exist. With one exception, these companies are unable to pay for power and gas supplies because they are forced to charge low prices and do not collect even these prices from many customers. The newly privatized generation companies are unwilling to supply distribution companies who can not pay and thus supply shortages continue. A similar problem exists in the gas sector. The one exception is the power company sold to Tractebel that for the most part has been able to raise prices and reduce non-payment in spite of opposition from the public and some government officials.

Thus the major issue faced by Kazakhstan is how to privatize distribution for both power and gas. This is politically difficult because of public opposition to higher retail prices. Private investors will not purchase these companies, however, until a regulatory regime is in place that will allow them with some certainty to charge and collect reasonable prices. Once distribution is privatized, the government will then have to decide on the form of the wholesale market for power in which the power companies compete to sell to the financially solvent distribution companies. The current system of bilateral negotiations could be improved.

Kazakhstan must also decide on how to structure its gas sector that involves complex economic and geo-political issues. For example, should the government attempt to reduce its dependency on gas imports by building new pipelines between its production and consuming areas? If imports continue, who should negotiate with the foreign suppliers, the government, the individual distribution companies, or the transmission company?

ACKNOWLEDGMENTS

Part I of the report was written by Robert E. Anderson (formerly working in private sector development in ECA, now in the South Asia Region), relying on the findings presented in Part II and III. Part II was prepared by Tamas Markus (formerly working in the energy sector in ECA, now a consultant), utilizing input from a team that also included Balazs Alliquander (MOL Rt.), Istvan Bakacs (MVM Rt.), Jozsef Sandor (MVM Rt.), and Gabor Szorenyi (HEO). Part III was prepared by Ranjit Lamech (Energy Anchor Unit, World Bank) and Peter Thomson (Energy Department, ECA), utilizing input from Patricia Hackman, Peter Pollak (Energy Department, ECA) and Ruslan Mamishev (Resident Mission, Almaty). The preparation of the report was coordinated by Laszlo Lovei (Energy Department, ECA).

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Abbreviations and Acronyms

AMC	Anti-monopoly Committee
APC	Almaty Power Consolidated
APV Rt.	State-owned (holding) company with responsibility for directing the Privatization Process in Hungary.
AV Rt.	Predecessor of APV Rt.
CAC	Central Asia to Central Europe Gas Export Corridor
CENTREL	Interconnected power system covering the Czech Republic, Hungary, Poland and Slovakia
CHP	Combined heat an power
CMEA	Council of Mutual Economic Assistance
DISCO	Distribution company
EC	European Commission
ESMAP	Energy Sector Management Assistance Programme
EU	European Union
FGD	Flue Gas Desulfurization
FSU	Former Soviet Union
GDP	Gross domestic product
GDC	Gas distribution company
GENCO	Generation company
GRES	State Regional Electric Stations
HEO	Hungarian Energy Office
IPS	Integrated power system
JSC	Join-stock company
KEGOC	Kazakhstan Electricity Grid Operating Company
MOGI	Ministry of Oil and Gas Industries
MOL Rt.	State owned gas and oil company (Hungary)
MVM Rt	State-owned electricity (transmission and holding) company
MVMT	MVM Trust; predecessor of the MVM Rt
NES	National Energy System
NOx	Nitrogen Oxides
OC	Office for Competition (Hungary)
OECD	Organisation for Economic Co-operation and Development
OKGT	Predecessor of MOL Rt.
PHARE	Assistance Program of the European Union for Central and Eastern European Countries
PM	Prime Minister
PPA	Power purchase agreement
SOE	State-owned enterprise
SPC	State Property Committee
UCPTE	Interconnected System of Continental Western European Power Networks
UGSS	Unified Gas Supply System
USAID	United States Agency for International Development
USG	Underground Gas Storage
VAT	Value added tax

Part 1

Comparative Analysis of Energy Sector Privatization in Hungary and Kazakhstan

Contents of Part I

Introduction

Hungary and Kazakhstan have privatized a large portion of their electric power and natural gas sectors. In contrast, the other former socialist countries in Central and Eastern Europe have privatized almost none. Has the privatization in these two countries been a success? What lessons can other countries learn from their experience?

These two countries are interesting case studies because they have adopted different strategies for restructuring and privatization. In most respects, Hungary followed a "textbook model." It was well planned, well managed, orderly, competitive, transparent, and generally regarded to be free from corruption. In contrast, privatization in Kazakhstan seemed to be unplanned, rushed, opaque with little competition, and thus subject to allegations of corruption.

Also the power and gas sectors are very different in these two countries. Under the former socialist system, the Hungarian power and gas sectors had a long history of being relatively well managed, equipment was maintained, and customers usually paid their bills.

In contrast, the power and gas systems in Kazakhstan were previously part of the larger systems serving the former USSR and were not designed to stand alone or be independent. Kazakhstan inherited pieces of the old systems that were not integrated. It had to develop new structures, enterprises, and organizations to operate and manage these systems. These systems suffered due to low tariffs, a high degree of non-payment or barter payment, and thus a lack of funds for maintenance and fuel in the power sector and for payments to suppliers in the gas industry.

Obtaining information about the privatization program in Hungary was relatively easy because of the transparent process. Also Hungary has a well-established system of regulation that provides information about the prices charged and how the markets for power and gas are organized. In contrast, the more chaotic and opaque program in Kazakhstan makes obtaining reliable information difficult. Details about privatization transactions are considered to be commercially confidential and not readily available. The wholesale markets for power and gas are essentially unregulated and how they function is unclear. Thus conclusions about the Kazakhstan experience will be more tentative and speculative.

The following analyzes how each country dealt with the key issues involved in the restructuring and privatization of the power and gas sectors. These issues include:

- Industry structure,
- Wholesale market,
- Labor and management relations,
- Regulatory framework,
- Privatization objectives, and

- Privatization methods.

Status of Reforms in Hungary

Before describing the history of reforms in each country, what is the current status of the reforms? In other words, what do the sectors in each country look like today? Table 1 summarizes the reforms to date for the power sector and Table 2 for the gas sector.

Power Sector

Structure

In Hungary, the power sector is composed of 15 companies – eight generation, six distribution, and one transmission company. Five of the generation companies also own coal mines. Generation capacity is about 7,500 MW divided between a nuclear plant (25 percent of the total), oil and gas-fired steam plants (40 percent), coal fired (27 percent), gas turbines (seven percent), and a negligible amount of hydro-electric capacity.

Privatization

Privatization of the power sector is largely complete. With regard to generation, strategic investors (usually foreign power companies) have purchased more than 51 percent of the shares in six of these companies. The seventh company (coal fired) has not yet been privatization because of difficulties in restructuring the associated coal mine. The eighth company (the nuclear plant) has been combined with the transmission company.

With regard to distribution, strategic investors have purchased more than 51 percent of the shares in all six of the companies. The state still owns the transmission company (MVM) including the dispatch center and the nation's single nuclear plant. The government has kept a "golden share" in each company that requires government concurrence in certain key business decisions such as changing capital structure or business profile, issuing new classes of shares, mergers or dissolutions, and dividend policies.

Markets

The organization of power markets follows the "single buyer" model with the transmission company being the single monopoly wholesale buyer and seller of power. MVM has purchase power agreements to buy all power supplied by the generation companies and a monopoly right to buy any imports. It then resells the power to the distribution companies. MVM also controls nationwide dispatching of generation plants as well as transmission. MVM pays a two-part rate for power that varies depending on each company's cost characteristics. MVM charges a single average rate to all distribution companies. All distribution companies in turn charge the same rates to final customers.

Table 1: Summary of Power Sector Reforms

	Hungary	Kazakhstan
Sector Structure	Vertical separation Single buyer model	Predominantly vertical separation Competitive generation market One vertically integrated company (Almaty)
Regulation	Hungarian Energy Office	State Commission for the Regulation of Natural Monopolies
Assets Privatized	6 generation companies 6 distribution companies	37 generation plants 3 distribution companies One vertically integrated company (Almaty)
Assets Still in State-ownership	One thermal generation company One nuclear plant One transmission company	17 small generation plants 15 distribution companies One transmission company
Methods of Privatization	Competitive sale auction for 11 companies Negotiated sale of one company	Primarily negotiated sale or concession
Proceeds of Sale	US$ 1.5 billion	Uncertain but small.
Purchasers	Foreign power companies	Foreign and domestic investors

Source: Information obtained from Governments of Hungary and Kazakhstan

Gas Sector

Structure

The gas sector in Hungary is composed of a single supply and transmission company and five regional distribution companies. The supply and transmission company (MOL.) is the sole importer and domestic producer of natural gas. It resells this gas to six regional distribution companies and operates gas storage facilities. MOL purchases about 60 percent of its gas supply from Russia and produces the remainder from Hungarian fields.

Privatization

In Hungary, privatization of the gas sector is even more advanced than power. Many institutional and individual investors hold about 75 percent of the shares in the supply/transmission company. In contrast, foreign strategic investors own majority or larger stakes in the six distribution companies. In five of these, institutional or individual investors hold the balance of the shares, and thus these companies are completely

privatized. In the sixth company serving Budapest, the municipal government is still a 50 percent shareholder.

Table 2: Summary of Gas Sector Reforms

	Hungary	***Kazakhstan***
Sector Structure	Vertical separation Single supply/transmission company (owns local production and single importer). 6 regional distribution companies.	Vertical separation Mix of imports and domestic producers. One transmission company 8 regional distribution companies
Regulation	Hungarian Energy Office	State Commission for the Regulation of Natural Monopolies
Assets Privatized	Supply/transmission company (75%) 6 distribution companies (50 to 100%)	Transmission company Domestic production owned by private petroleum companies.
Assets Still in State-ownership	25% of the supply/transmission company 50% of one distribution company	8 regional distribution companies
Methods of Privatization	Competitive sale auction for 6 companies IPO for the transmission company	Concession
Proceeds of Sale	US$ 1.0 billion	Uncertain but small.
Purchasers	Supply/transmission company – institutional and individual investors Distribution companies – more than 50% strategic investor, balance institutional and individual investors.	Foreign investor

Source: Information obtained from Governments of Hungary and Kazakhstan

Markets

There is little scope for competition in markets for gas in Hungary, and all prices are regulated. The supply/transmission company negotiates the import price of gas from foreign suppliers (primarily, the Russian firm Gasprom). A different price is paid for domestically produced gas. The combined cost of these supplies plus the cost of transmission and storage is passed on to the distribution companies. These companies generally charge a single commodity rate to final consumers regardless of how much or when they consume the gas. Customers who agree to have their service interrupted during periods of peak demand are charged a lower price.

Regulation

Regulation of the power and gas sectors is carried out by the Hungarian Energy Office headed by a Director General under the supervision of the Minister of Economic Affairs. It has a staff of about 70 and is funded through a line item in the budget though its revenues from fees are sufficient to meet its expenses. Among other duties, it issues licenses for each regulated entity and drafts detailed rules for pricing. However, the Minister establishes the prices that are than set by government decree. Thus the Energy Office is not an independent regulatory body able to set prices without concurrence of the government.

With regard to power, the Electricity Act of 1994 requires the government to set prices so that sector companies can recover their costs including operating costs, depreciation based on the replacement cost of the asset, and an eight-percent return on the book value of equity. From a base level in early 1997, prices are automatically adjusted using a formula to reflect inflation and thus remain essentially constant in real terms until the end of 2000 (a small decrease is included to reflect expected efficiency gains). In other words, the sector is regulated by a British-style "RPI-X" formula. Prices are now close to cost recovery levels and cross subsidies have largely disappeared. With regard to gas, the principals of regulation are similar to power including an eight--percent return. One difference is that the price of gas at the border is determined by negotiations with foreign suppliers such as Gasprom.

Status of Reforms in Kazakhstan

Power Sector

Structure

Compared to Hungary, it is difficult to give a clear picture of how the power sector in Kazakhstan is now functioning. There are approximately 54 generation plants in the country with a total installed capacity of about 18,000 MW. Reports indicate that functioning capacity may be much less because of poor maintenance. Capacity includes large thermal plants (for example, four large coal fired plants with nameplate capacity ranging from 1,000 to 4,000 MW), 12 hydroelectric plants (the largest with a capacity of 700 MW), and many small plants that provide district heating as well as electricity.

Privatization

Of these 54 generation plants, about 37 have been privatized in one form or another and account for more than 80 percent of capacity. Many of the private owners are foreign companies including AES, Samsung, Japan Chrome, Ispat, and Independent Power Company.

Only about three of the 18 or so distribution companies have been privatized. A state enterprise called the Kazakhstan Electricity Grid Operating company (KEGOC) owns the transmission grid and controls dispatch. It has also been given management control of the remaining generation assets and distribution companies in state-ownership.

A special case is the utility serving the largest city and former capital, Almaty. This is an integrated generation and distribution company that has been purchased by Tractebel, a Belgian power company.

Markets

The private generation companies in Kazakhstan sell their power under whatever bilateral contracts they can arrange with distribution companies and large industrial customers. Industrial customers with loads as low as 5 MW participate in this market if they can obtain access through the distribution grid or have direct connection to the transmission grid. Though the regulatory agency sets ceiling prices for these sales, the negotiated or market prices are said to be below the ceilings and determined through competition.

Thus the wholesale market for power is perhaps unlike any other. Again because the arrangements between buyer and seller are confidential, exactly how this market is functioning is unclear. It is also evolving and changing. It seems that the generation companies vigorously compete to supply those purchasers who are credit-worthy and have the money to pay, and there is no requirement that they supply those who do not pay.

In order for this market to function, KEGOC enforces these bilateral contracts in most cases by not allowing purchasers to take more power off the transmission system than they have contracted for. There is no short-term market, for example, a spot market or power pool, similar to what has developed in other countries.

Gas Sector

Structure

Kazakhstan has abundant reserves of natural gas, but is forced to import more than half of its consumption. This is because of the location of its transmission pipelines that were built to serve the needs of the Soviet Union rather than Kazakhstan. The reserves of gas are found in the country's large oil fields as "associated" gas in the northwestern part of the country near the Caspian Sea. Future production from these fields could be as large as 30 billion cubic meters (BCM) per year.

The major domestic markets for gas, however, are found some 2,000 kilometers away in the more heavily populated southeastern part of the country including the largest city, Almaty. Current domestic gas consumption is about 8 BCM per year. Because of a lack of a cross-country gas pipeline, much of the southeastern part of the country is supplied by imports from Uzbekistan.

In spite of Kazakhstan's large reserves, it now exports only limited amounts of gas to other countries because of restricted access to pipelines through Russia controlled by Gasprom. This inability to market Kazakh gas associated with oil production either to domestic or foreign markets may soon constrain oil production.

In addition, a number of north-south pipelines were constructed to transport gas from southern republics such as Uzbekistan and Turkmenistan across Kazakhstan

connecting with pipelines in Russia for delivery to European markets. These pipelines are operating at below capacity because of the inability of the southern republics to find markets for their gas.

Privatization

The transmission of gas is managed by Intergas, a subsidiary of Tractebel that also owns the Almaty power company. The government granted Tractebel a 15-year concession for the gas transmission company. The government, however, still owns 90 percent of the shares of the eight gas distribution companies. The workers hold the balance.

Markets

Only eight out of the 19 provinces in Kazakhstan (called "Oblasts") with about 50 percent of the population have access to natural gas. In each of the eight Oblasts, a single gas distribution company supplies gas to final consumers. The distribution companies enter into contracts with domestic gas producers, exporters in Uzbekistan and Turkmenistan, or Tractebel. If necessary, the distribution companies arrange for transmission by the Tractebel subsidiary.

Tractebel is primarily engaged in the transmission of gas and is not a wholesaler that buys gas from producers and resells to distribution companies. However, in certain cases, under pressure from the government, Tractebel has purchased gas for resale to the distribution companies.

Regulation

The power and gas sectors are regulated by the State Commission for the Regulation of Natural Monopolies. It regulates many other sectors as well. By all accounts, the regulated retail prices for gas and power are substantially below the cost of service and cross subsidies are large. Moreover, the distribution companies collect only a fraction of even those low retail prices because of the high level of non-payment and barter payment. This makes it difficult for the distribution companies to pay for gas or power. Thus there are widespread shortages of both gas and electricity in some distribution companies. One exception is the privatized Almaty power company in which non-payment is less than 10 percent.

Options for Industry Structure

Power Sector

The first step in any reform of the power sector is to decide on the industry structure. In the past, most power sectors were dominated by large vertically integrated monopolies. They generated, transmitted, and distributed power to the final consumers. In the United States, these utilities were typically privately owned. In other countries, most were government owned. Consumers could usually buy power only from the utility that served their area.

The only competitive markets for power were those in which the large integrated utilities might buy and sell power among themselves, for example, "power pools" in the United States. Because the utilities were monopolies and to protect consumers, the retail prices for power were set by various regulatory bodies, ministries, or the government.

Vertical Separation

Beginning in about 1990, the power sectors in many countries have been dramatically restructured to permit more competition and then privatized. This typically involves splitting up the vertically integrated utilities into separate generation, transmission, and distribution companies.

This increased emphasis on competition results from the recognition that privatization alone will not bring about the maximum efficiency gains in the sector. Private companies need the spur of competition. Private monopolies may not be a large improvement over state-owned monopolies.

In addition to the industrial structure, the government must decide on the form of the markets for buying and selling power between these new independent companies. The most important is the wholesale market in which the generation companies sell power to the distribution companies and possibly to some final consumers.

A related issue is whether consumers of power will be allowed to buy power only from their regional distribution companies thus maintaining the monopoly position of these companies. Alternatively, will consumers be allowed to choose their supplier and thus can buy power directly from generation companies, other distribution companies, or independent power marketers. This is referred to as "open access" or "bypass" because the consumer has the right to access the local distribution grid to receive power that it has purchased from someone else and thus bypass the local distribution company.

Single Buyer Model

After the sector has been divided vertically creating multiple generation and distribution companies, there are a variety of ways of organizing the wholesale market for power. These can be grouped into two general models – a single buyer model and a multiple buyer model. In the single buyer model, the government grants a single entity (often the transmission company) the monopoly right to buy all of the power produced by the generation companies and resell the power to the distribution companies. The power is usually purchased from the generators under long-term purchase power agreements that provide a two part rate – a capacity payment that covers the generator's capital or fixed costs and an energy payment that covers the variable costs when power is actually produced.

A key function of the single buyer is to plan for future increases in generation. The single buyer determines what kinds and amount of new capacity are needed to meet growing demand and then arranges for private investors to build this capacity usually through competitive bidding. In this model, the only competition is in the bidding by generation companies to build new capacity.

The prices charged by the generation companies are regulated in either of two ways. They may be regulated by a regulatory agency with the discretionary authority to adjust these prices as costs of generation and other conditions require. They may also be regulated by the purchase power agreements that include a formula adjusting the prices depending on changes in costs. The single buyer then resells the power to distribution companies at regulated prices after adding an amount to cover the costs of transmission.

At first glance, it may seem that the issue of bypass or access to the distribution grid does not arise in this model. Since by government law or regulation there is only a single seller of power at the wholesale level, a consumer of power that chose to bypass the local distribution company would only have the option of buying power from that designated single seller. The consumer, however, may still find this an attractive option if the distribution company is overcharging him for power. This often arises when the distribution company charges high prices to industrial or commercial customers in order to charge low prices to residential customers. In other words, the distribution company is cross subsidizing residential customers at the expense of industrial and commercial customers. These customers may try to escape this overcharging by buying directly from the designated single seller of power on the wholesale market.

Multiple Buyer Model

In the multiple buyer model, many buyers such as distribution companies and even retail customers compete to buy power from the generation companies. The resulting markets for power can be structured in various ways but usually involve some combination of a short-run or "spot market," a long-term or contract market, and even a futures or option market. In this model there is competition in the day to day supply of electricity, as well as competition to build new power plants.

In a spot market such as that pioneered in the United Kingdom, generators sell their power at a single price to the distribution companies. This price is short run, may vary as often as every fifteen minutes, and (with a few exceptions) is typically unregulated. The price fluctuates depending on the supply offered by the generators and the demand requested by the distribution companies.

Typically, a central operator of the spot market records the offers to sell and the offers to buy, sets prices that match supply and demand, records what each generator has sold and each distribution company has bought, and then arranges for the appropriate payments. This market operator can be part of the transmission company, combined with the organization that dispatches generation plants, or a separate organization. In addition to the spot market price, the delivered price to the distribution companies would include a charge for transmission.

If properly constructed, such a spot market will assure economic dispatch of generation plants, in other words, plants with lower variable costs are operated before plants with higher variable costs. Owners of plants with variable costs below the current spot market price will offer to have their plants dispatched because it is profitable for them to do so. Those with higher variable costs will not want to have their plants dispatched. Buyers and sellers may supplement the spot market with long-term contracts

(called contracts for differences in the UK). These contracts specify a fixed price, provide more certainty to generation companies about future prices compared to the spot market, and thus may facilitate the financing of new generation plants.

Long term contracts, however, can increase the risk for distribution companies. If their customers can bypass them and buy power from other suppliers, distribution companies may find that they can not resell the power if the spot market price falls relative to the price in their long-term supply contracts. Their customers would then prefer to buy power directly from the spot market. In this case, distribution companies may be reluctant to enter into long term contracts if they do not have a monopoly on the sale of power in their service area. Thus an important issue determining the relative importance of the short-term spot market and the long-term contract market is whether final consumers have direct access to the wholesale market.

In contrast to the single buyer model, no single entity has responsibility to plan for future increases in generation capacity and to assure that this capacity is available. Private investors can choose to build new generation plants if they believe that the future spot market price will allow them to earn their desired rate of profit or if they have been able to negotiate long term contracts with credit worthy buyers. Private investors bear any risk that the price may be lower than expected. In this regard, the power sector would be no different from other industries in which investors must decide whether to build new capacity based on their estimates of future market prices.

Gas Sector

Options for structuring the gas sector involve a number of difficult and complex issues not found in the power sector and unique to each country, in particular, with regard to gas supply and production. As a result, it is difficult to give general recommendations as to how the production and supply side of the gas industry should be structured.

One model for the gas sector is similar to the multiple-buyer model in the power sector. The objective is to maximize competition in the production and supply of gas. This model has been implemented in the United States. The sector is split vertically into separate production, transmission, and distribution companies. The production companies compete to sell gas to the distribution companies or to final consumers in a wholesale market. The transmission companies transmit the gas from the well head to the distribution companies for a regulated fee but do not own the gas or act as wholesaler. Final gas consumers can contract directly with gas production companies and bypass the local distribution companies.

If gas supply is competitive, there is no need for the government to regulate the well head price of gas. The government will probably still have to regulate the price for transmission and distribution because competing pipelines are rare.

This model is only feasible, however, in a country that has multiple suppliers of natural gas either domestic or foreign. The extent of possible supply competition depends on the geology and geography of the country. Also since gas is often associated

with oil production, the structure of the gas supply industry may be determined by the structure of the oil industry.

For example, the country may have limited domestic production and be dependent on a single foreign supplier. Without government intervention, this foreign monopoly supplier could charge high prices to the various distribution companies who have little bargaining power. The only alternative is likely to be for the government, a government-owned company such as the gas transmission company, or a consortium of distribution companies to bargain with the single foreign supplier on behalf of all gas consumers. This situation would be a "bilateral monopoly" in which a single seller faces a single buyer. This is more likely to give the country greater bargaining power and result in lower imported gas prices. Also reliance on a single foreign suppler may raise national security and geo-political issues which only the government can deal with and can not be left to the market.

Thus the structure of gas supply and production in Hungary and Kazakhstan raises issues that are beyond the scope of this report, and we will not attempt to analyze which structure of gas supply is optimal for each country. Regardless of how gas supply and production is structured, it is still desirable to separate gas transmission from distribution and to create multiple gas distribution companies. Though direct competition between the various gas distribution companies is unlikely, such a structure will improve the ability of the government to regulate the sector. The regulatory agency can compare the performance and prices between the various distribution companies which helps to identify poorly performing or high cost companies and over charging for distribution services.

Industry Structure in Hungary

Power Sector

Which of these industry structures and markets for power did Hungary select and why? Hungary has implemented the single buyer model. There is the possibility, however, that this could evolve into a spot market following the directives of the European Union to liberalize markets.

The reasons why Hungary chose the single buyer model are unclear. This decision did not seem to have been based on a detailed analysis of the alternatives. Instead, it seemed to have evolved gradually out of past industry structures or to assure rapid privatization.

In Hungary, the vertical separation of the industry had begun even under the former socialist government. By 1992, the sector had been converted into a holding company structure under the control of the state-owned MVM Company. MVM was the 50 percent shareholder in the generation, transmission, and distribution companies and was given a contact to manage them. Most of the other shares were held by the privatization agency (APV).

MVM played the dominant role in the management of the sector through its ownership of the other companies. It was responsible for dispatch, investment planning, contractual relationships between the various companies, reliability, and financial liquidity.

Single Buyer

It was perhaps natural that even after privatization of generation and distribution, MVM kept a central role in the industry. It remains the single buyer and seller of power on the wholesale market, owner of the transmission grid, manager of dispatch, and responsible for planning and contracting for new capacity. It is also the major source of information about the sector for the government and plays a quasi-regulatory role in addition to the Hungarian Energy Office.

At the time decisions were made about the sector structure, many experts doubted (and some still do) whether investors would be willing to purchase the generation companies or invest in new capacity if they were forced to sell their output on a spot market. It was felt that investors in generation would insist on long-term contracts with credit-worthy purchasers. Given that Hungary was in the middle of its transition to a market economy and risks for investors were high in any event, the government may have decided that it was not feasible to implement a spot market because of the extra risks it created for investors.

Also the government would have had to spend considerable time and effort to develop the institutions for a workable spot market and thus delay privatization. Given the small size of the sector, concerns may have been raised as to whether competition would be adequate in the spot market to assure fair prices. Even in the much bigger UK market, the regulator has had to exercise some control over the spot market because of inadequate competition.

Investment Planning

A major weakness of the single buyer model is that it still leaves planning for generation investment in the hands of the government. It is rare for the single buyer to be privatized because of its central role in the management and regulation of the sector, and the government of Hungary kept a majority shareholding in MVM. The government through MVM will continue to decide how much new generation capacity is needed, what type is needed (coal, nuclear, gas, base load, peaking, etc), and how much to pay. MVM is now engaged in a program to select the private investors that will be allowed to build new capacity.

Historically, some of the biggest mistakes made by governments have been in planning for investments in the power sector. This is because of the high cost of building unneeded or the wrong kind of capacity and the high cost to consumers of power shortages when not enough capacity has been built. In most other sectors of the Hungarian economy, decisions about new investment and capacity have been privatized – but not in power.

EU Directives

Hungary may need to modify the market for power to conform to the directives of the European Union since Hungary intends to join the EU as soon as possible. The EU requires that the market for power in member countries be liberalized initially for large consumers and then expanded eventually to all consumers. Thus if Hungary follows the directives of the EU, at least some consumers would be allowed to buy their power from any source rather than just MVM. This could put MVM in the difficult dilemma of having contracted to buy power under long-term contracts but not being able to sell the power because consumers choose to buy their power elsewhere.

One solution to this dilemma is to adopt a competitive wholesale market for power after 2000 and to remove MVM from the middle as the single buyer and seller of power on the wholesale market. The purchase power agreements between MVM and the generation companies expire in the year 2000. This was done in recognition that changes may have to be made to meet EU directives. Also to introduce a competitive market, MVM will either have to refrain from signing long-term contracts with investors to build new capacity or include a provision in the contracts that, after a certain date, the investors must sell the power on the spot market.

One of the strengths of the multiple buyer model is that investment decisions are left to private investors who will reap the rewards if they estimate future needs correctly and will lose money if they estimate incorrectly. Though there was initial skepticism whether a spot market would result in adequate private investment in generation, the trend of expert opinion seems to be that this type of market is attracting investment in both developed and developing countries. Such plants that are built without the security provided by long-term contacts are referred to as "merchant plants." In line with this recent experience, Hungary has decided to move away form centrally managed tenders for new capacity and is planning to adopt a simple authorization procedure.

Gas Sector

In the case of gas, Hungary has chosen to combine in MOL the three functions of domestic supply, importation, and transmission. The logic behind this structure is that MOL as the single buyer of imported gas is likely to have more bargaining strength with single foreign supplier than would multiple distribution companies. However, the government is examining alternative sources of supply to reduce reliance on a single source of imports and thus creating competition among suppliers. This will require the separation of domestic production from transmission sometime in the future. Hungary has already separated transmission from distribution and created multiple gas distribution companies. As noted above, this is likely to improve the regulation of the sector.

Industry Structure in Kazakhstan

Power Sector

Kazakhstan began to implement the single buyer model for power but was unable to do so because too many retail consumers did not pay for their power. Thus the

designated single buyer could not honor its purchase power agreements with the generation companies. Out of necessity, the generation companies have created a competitive market for power unlike any other to cope with the special circumstances of this country. This market is an interesting example for other countries in the region that also have to cope with a high level of non-payment. As the Kazakh system matures and stabilizes, this market may also evolve into a spot market.

Single Buyer

The government may have chosen the single buyer model as the easiest way to deal with an impending crisis in the sector. As described in more detail below, the government felt that the only way to avoid this crisis was to rapidly privatize generation. Following the example of independent power projects in other countries, the government believed, that private investors would purchase existing generation plants only if they were offered long-term, purchase power agreements that would guarantee them a market for their power. Moreover, it would also have taken some time to develop the institutions for a workable spot market, a luxury the government did not have.

The single buyer was to be the state-owned transmission company that would then resell the power to the regional distribution companies. After privatization of generation, however, the transmission company simply did not have the cash flow to honor the purchase power agreements. This was due to the high level of non-payment by regional distribution companies that was in turn due to non-payment by final consumers.

Bilateral Contract Market

The new private owners of generation plants quickly realized that they could not force the transmission company or the government to honor the purchase power agreements. They had to find other buyers who could pay for the power. The sector began to move towards a multiple buyer model. The market that developed has a number of unique features.

In some cases, large industrial or mining companies purchased power plants to serve their own needs, and thus these plants have a captive market. In other cases, the new private owners could not find adequate credit-worthy buyers, reduced generation levels accordingly, and delayed investment. When a generation company did find a credit-worthy buyer, the company often had to accept prices much lower than in the original purchase power agreements with the transmission company. For example, the AES Silkroad generation company now sells power for 1.1 US cents per kWh compared to 2.8 cents in the original purchase power agreement.

The bilateral contracts between buyers and sellers are short term and change based on market conditions. Payments are made directly from buyer to seller on whatever terms they agree to. If the buyer does not pay, the seller may choose to stop supplying and find another buyer. Whether or not the seller accepts barter payments is entirely at his discretion, and he may choose to do so if no better offer is available from another buyer.

The most intriguing feature of this market is how buyers can be certain that they actually receive the power from the generation companies with whom they have

contracted. This is not a problem that typically arises in markets for other goods and services. Unlike other markets, power is not delivered directly from the supplier to the buyer but is instead supplied to a transmission grid that serves all buyers. What assurance is there that a buyer does not take more power from the grid than he has a contract to buy? If this happens, there will be a general system shortage resulting in black outs or brown outs. This would deny power to other buyers even though they have contracts to purchase power adequate to meet their needs.

In particular, the remaining state-owned distribution companies with poor records in collecting from final consumers probably have not been able to contract for enough power to meet their needs. The private generation companies may refuse to supply them because they have a poor record of paying for power on the wholesale market. Someone must limit their ability to take power from the grid in excess of what they have contracted for or else such a market can not function.

Role of KEGOC

It seems that the state-owned transmission company (KEGOC) polices the market to make certain that buyers take no more than they are contractually entitled to take. The private owners of the generation companies state that KEGOC is generally effective in this role. This is noteworthy given that KEGOC manages many of the distribution companies and thus might be tempted to supply them with power above their contracted amounts.

Exactly how KEGOC polices the market is unclear. How can it stop a buyer, for example, a distribution company, from taking more power than it has contracts for? Three explanations are possible:

The first is that distribution companies may follow orders from KEGOC to curtail their own customers (load shedding) so that they do not take more power from the grid than they are entitled to. KEGOC may be able to enforce such orders because it is both the system manager and has management rights over the remaining state-owned distribution companies

The second is that KEGOC forcibly disconnects supply points for buyers who are taking more than they have contracted for and refuse to reduce voluntarily their demand. We understand that KEGOC is investing in more automatic load-shedding devices.

The third is the KEGOC may be willing to supply at least some of the needs of distribution companies who can't pay from generation plants it owns or manages and thus to bear the burden itself of non-payment.

The strength of this market is that it does enforce payment discipline and is an example for other countries in the region with serious non-payment problems. Though many mechanisms have been proposed to reduce non-payment and barter payment in other countries, the only effective mechanism has been to terminate supply to those who don't pay. This includes buyers at the wholesale level such as distribution companies as well as at the retail level. This market in Kazakhstan does seem to terminate supply to those buyers on the wholesale market who do not pay.

Future Spot Market

The weakness of this market is that it does not result in least-cost dispatch of plants. Under these bilateral contracts, a generation company operates its own plant to supply its contract customers even if another generation company has lower variable costs and is not operating.

As the market matures, the generation companies may form a market among themselves that permits high-cost generators to buy power from low-cost generators on short notice and still meet their contractual commitments. Generation companies will have a natural incentive to form such a market because both buyers and sellers benefit. In effect, this would become a spot market for power resulting in economic dispatch though only generators would participate. There is some evidence that generators are already buying and selling power among themselves as backup or reserve power so that each generator is better able to provide a reliable supply to its customers.

Such a spot market for power should be organized as a voluntary club in which the members enforce the rules. In particular, the members must be allowed to exclude those who don't honor their obligations to pay. Credit-worthy distribution companies and even large customers could potentially be allowed to participate if they pay for the power.

The regulatory agency or KEGOC may see a need to regulate either the existing bilateral contracts market or a future spot market for power. One risk, however, is that the regulator may give in to pressure and insist that buyers be allowed to participate who do not pay their bills. Non-payment by any participant will reduce payment discipline and undermine the workings of these markets. This has been the experience in other countries of the region in which non-paying customers were allowed to participate in markets for power. Until payment discipline is imposed at all levels, it would probably be a mistake for the government to try and replace the existing market based on bilateral contracts with a spot market similar to that used in the UK that includes all the generation and distribution companies.

Open Access

What is Kazakhstan's policy with regard to open access and bypass? Government regulations state that customers with a demand as low as 5 MW may buy power directly from generators and access both the transmission and distribution systems to receive that power. It appears that many customers are able take advantage of this policy. It is hard to tell, however, how many others are unable to do so because of the difficulty in negotiating access primarily with the distribution companies.

Almaty Regional Company

Though the general industry structure is vertical separation of generation, transmission, and distribution, the utility serving Almaty is an important exception. This utility owned by the Belgian company, Tractebel, is vertically integrated combining both generation and distribution.

Tractebel insisted on this structure as a condition of taking over ownership. Given the chaotic situation in the industry prior to privatization, Tractebel may have believed

that it could not take on the responsibility of supplying the largest city in the country without having an assured supply from its own generation plants. Relying on independent generation companies was too risky. It is difficult to criticize the government for accepting this less than ideal structure given the large improvements in the Almaty utility brought about by Tractebel.

This structure in Almaty, however, limits competition in generation since the single largest distribution market in the county is not open to competition from different suppliers of electricity. One option would be to force Tractebel to split generation and distribution in Almaty into separate companies under separate ownership. The new generation company would have to compete with existing companies to supply the Almaty distribution company. Alternatively, the government could allow customers in the Almaty region to shop around and obtain their power from other suppliers, in other words, introduce open access or bypass. This is difficult to implement, and requires sophisticated regulation that may be beyond the current capabilities of the new regulatory agency. However, this is an option that should be considered in the future.

Gas Sector

Because of the current configuration of the pipeline system, the gas distribution companies in the southeastern part of the country are largely dependent on imported supplies from Uzbekistan. Thus the individual gas distribution companies are at a disadvantage in negotiating with this monopoly supplier. The other distribution companies that can buy gas from domestic producers face a more competitive market with abundant supplies. The price for domestically produced gas at the well head (US$29 per million cubic meters) is substantially below the price for imported gas from Uzbekistan (US$55 per million cubic meters).

The government faces a complex problem concerning the future structure of the gas industry that involves economic, strategic, and geo-political issues. One option would be to build a cross-country pipeline connecting the domestic supply centers in the northwest with the major consuming areas in the southeast. The cost, however, would be high.

A second option would be for Kazakhstan to continue to import gas for its southeastern markets from Uzbekistan and export the production from the northwest. This would reduce transmission costs. However the feasibility of this option depends on the price and reliability of gas supplies from Uzbekistan and the availability of exports markets for production from the northwestern fields.

As long as Kazakhstan remains dependent on imported supplies from Uzbekistan, the government will have to become involved in the negotiations over price since the individual distribution companies lack bargaining power. The possibility of constructing a cross-country pipeline should give the government some leverage in negotiating prices with Uzbekistan.

Instead of the government becoming involved in negotiating with Uzbekistan, the government could create a single wholesaler of natural gas similar to the role that MOL plays in the Hungarian gas industry. This wholesaler would buy gas from domestic and

foreign producers and then resell the gas to the distribution companies. This wholesaler would have more bargaining power relative to suppliers than the distribution companies operating independently.

Until the non-payment problem is eliminated, however, the wholesaler may find itself in the impossible situation of having purchased gas for resale but the distribution companies are unable to pay for it. Such a wholesaler would have to be able to terminate supply to distribution companies who do not pay.

To some extent, the government has pressured Tractebel to be such a wholesaler. Though its intention was only to transport gas for others, it has become involved in buying gas from foreign suppliers and reselling gas to the distribution companies. As a consequence, it has accumulated substantial unpaid bills from the distribution companies.

Cooperation of Labor and Management

In many other countries, opposition by labor unions and company managers to restructuring and privatization has been a major obstacle to reform. This did not seem to be the case in Hungary and Kazakhstan. How did they deal with such opposition? As usual, the answer is clearer for Hungary.

Unions

Labor unions often oppose privatization for fear that many of their members will lose their jobs because of overstaffing of state-owned companies. Unions may use their political influence to halt reform or take other direct action to hinder privatization, for example, strikes.

In Hungary, the government developed a comprehensive plan for dealing with the concerns of workers and thus minimized their opposition to privatization. In the case of power, the government negotiated agreements with the unions concerning such issues as maintaining labor agreements after privatization, future levels of employment, salaries, and other benefits. In addition, the government agreed to pay five percent of the privatization proceeds into a special fund to assist workers that lose their jobs after privatization. These labor agreements were included in the sales agreements and became binding on the new owners. As a result, there were no significant strikes or work stoppages before or after privatization.

After privatization, the companies have reduced their work forces by 30 percent or more. The special labor fund has thus far assisted 9,000 workers who no longer work in the sector. The fund provided each of them with approximately 600,000 Hungarian florints (US$2,500). After privatization, wage increases in the sector have slightly exceeded the rate of inflation.

Management

Managers may oppose privatization because of concern that the new private owners will replace them. Managers may try to block privatization, for example, by not

cooperating with potential buyers who need to obtain information about the companies to formulate their bids.

In Hungary, the sales agreements for power sector companies required the new owners to retain the existing managers for a minimum of two years. As a testament to the quality of the existing managers especially in technical and engineering areas, the new owners have retained most of them beyond this required period and have increased their responsibilities. The new owners, however, have had to introduce programs to upgrade management skills in such areas as finance, marketing, human resources, billing, and customer relations – areas that were not emphasized under the former economic system.

Some predict that new owners after privatization will replace all the incompetent old managers with new Western trained managers. In Hungary, this proved to be neither necessary nor practical. Most existing managers are intelligent and experienced. What is missing are skills needed for a market economy and better incentives and rewards for good performance provided by private owners.

In Kazakhstan, the government did not seem to have any special program to deal with labor or management issues prior to privatization. The one exception is that, in most cases, the government required the private investors to take on the liability for up to 60 days of unpaid back wages with the balance remaining a liability of the government. We are unaware of any major opposition by workers or managers to privatization. One explanation was the desperate financial condition of the sector. Many workers had gone unpaid for long periods and may have believed that new owners would be able to pay them, especially, foreign investors with deep pockets. They certainly had little to gain by insisting that the enterprises be kept in state-ownership.

Regulatory Options

In contrast to other sectors, the government must continue to regulate at least some of the prices charged by power and gas sector companies. Those companies that own the wires and pipes (transmission and distribution) are likely to remain monopolies even though power generation and gas production may become competitive. Thus to protect consumers from monopoly pricing, it is widely accepted that the government must regulate prices for at least transmission and distribution. The government may also have an important role in establishing and supervising markets for power even if they are competitive.

Regulatory Risk

Though such regulation is in the public interest if properly carried out, it is a major source of risk and uncertainty for potential investors and a possible impediment to privatization. The most important factor that investors will consider in deciding whether to bid and how much to bid for power and gas sector assets is the future prices they will be allowed to charge. Until investors have this information, they are unable to formulate their bids or will lower their bids to reflect this "regulatory risk." If regulatory risk is high, investors may still be willing to purchase the assets but at low prices. However,

they will be reluctant to invest substantial additional sums in modernization and expansion after privatization until they have greater certainty about the regulatory framework.

Independent Regulatory Commission

One frequently recommended approach to deal with regulatory risk is for the government to create an independent regulatory commission composed of well-known experts of high repute. The hope is that this commission will set prices based on objective financial, accounting, and economic principles and will not be influenced by political concerns or popular opinion. Sophisticated politicians may also recognize that such a commission will help to depoliticize the regulation of power prices and shield them from pressure to keep rates artificially low or continue cross subsidies.

The legislation creating such a commission can help to assure its independence by:

- Requiring that the decisions of the commission not be reviewed or changed by any other body except for an appeal to the courts,
- Setting staggered fixed terms for the members,
- Prohibiting removal of the members except for cause,
- Providing operating income from fees charged to sector companies independent of the government's budget, and
- Freeing the professional staff from the usual civil service rules about compensation and promotion so that the best possible employees can be recruited.

Though creating such a commission is probably desirable, investors may still believe that regulatory risk is high. The commission will have considerable discretion to use its expert judgement to set prices. Investors, however, will have little experience or track record with its operations to determine how it will exercise its discretion. It will be a new institution with no history or tradition. Though the legislation may attempt to assure the commission's independence, this may not happen in practice. Government officials and politicians may interfere in regulatory decisions to the detriment of investors.

Other Regulatory Measures

In addition to or instead of creating such a commission, some countries have adopted other measures to reduce regulatory risk. These include providing for:

- Detailed standards or rules in the law that the commission must follow in setting prices and thus reducing its discretion;
- Outside experts such as international accounting firms that judge whether these standards and rules are being followed;
- A detailed formula that would set prices to be included in the sale agreement between the government and the investors

- A government guarantee that this formula will be followed; and
- International arbitration to resolve disputes about whether the formula is being followed.

The precise combination of these measures including the creation of an independent commission that will reduce regulatory risk to acceptable levels depends on the specific characteristics of each country. Also these measures can only be determined after consultation with prospective investors.

Regulation in Hungary

Hungary was able to create a regulatory regime for gas and power that was not perfect but still attracted private investors and high purchase prices. In contrast, regulatory risk was and is still high in Kazakhstan. This has resulted in low purchase prices for assets that could be privatized and made other privatizations impossible.

Regulatory Framework

As noted above, Hungary did create a regulatory commission for power and gas, the Hungarian Energy Office (HEO). The HEO, however, is not an independent agency and only recommends prices to the Minister of Economic Affairs.

Regulatory Risk

As described above, the government enacted legislation in 1994 that set forth principles and rules that must be followed by the government in setting prices. The certainty provided by this legislation seemed to have reduced regulatory risk to acceptable levels. For example, investors were willing to buy sector assets in 1995 even though the government promised to increase power prices to cost recovery levels only in 1997.

Investors may have derived some comfort from Hungary's desire to join the European Union as soon as permitted. Because many of the investors were from EU countries, they believed that Hungary would not renege on promises or treat them unfairly. As a last resort, their home governments would have influence with the Hungarian government to protect their interests.

EU investors seemed more comfortable with a style of regulation that involved negotiations with the government since this is what they were used to in the EU. In contrast, other investors, particularly from the UK and the US, found the lack of an independent regulatory commission to be a drawback. Others would have preferred detailed formulas setting prices to be included in the purchase power agreements between the generation companies and the single buyer, MVM, backed by government guarantees.

Events after 1994 in the power sector demonstrated that this regulatory framework was not risk free for investors. HEO applied the principles in the law and calculated that the government would have to increase retail power prices by 35 percent by the first of

1997. Also investors argued that the government had promised to increase prices before this date.

The government initially balked at such a large increase. After considerable debate and argument with the investors, the government finally agreed to allow the full price increase at the start of 1997 for the privately-owned companies. The government, however, reduced the impact on consumers by not giving the full increase to the state-owned companies, notably the transmission company and the nuclear plant that supplies a large share of the power. In effect, the government continues to subsidize the prices for power to a limited extent by accepting a low return on state-owned assets.

Regulation in Kazakhstan

Regulatory Framework

In Kazakhstan, prices for power and gas were regulated until recently by national and local offices of the Anti-Monopoly Committee. This was not an independent commission, and both national and local governments intervened in setting prices. Thus prior to the privatizations in 1996-97, investors needed more certainty about future regulation than could be provided by the Committee.

During the privatization of the power generation assets, investors and the government negotiated purchase power agreements that included a formula or detailed rules for calculating the prices that the state-owned transmission company would pay for the power. In effect, the generation companies would be regulated by a formula in a contract rather than by a regulatory commission.

Tractebel also negotiated an agreement with the government as to how it would set power prices for the Almaty region. Instead of a formula, the government agreed to a methodology and certain principles for setting prices. Tractebel has had numerous disputes with the Committee about the interpretation of this agreement.

The Committee has continued to regulate the prices charged by the transmission and distribution companies for both power and gas. The retail prices are set substantially below cost recovery levels and cross subsidies are high. By one estimate, the average margin charged by ten of the power distribution companies was 22 percent below their estimated costs. Also household prices for power are still below industrial prices while in other countries, household prices are more than 150 percent higher than industrial prices.

In the case of the gas transmission company, Tractebel also negotiated an agreement with the government on how gas transmission prices would be set. This agreement simply said that such prices would be set according to Kazakhstan legislation subject to review by an independent expert. As with power, Tractebel disagrees with the government's implementation of the agreement leading to accusations of breach of contract and threats to pursue arbitration. In retrospect, Tractebel may have erred in not specifying more precisely the methodology and principles in the contract that the government would use in setting prices.

The Committee has set a "postage stamp" rate for gas transmission that is US$5.5 per million cubic meters regardless of the distance the gas is transported. While this rate is probably adequate to cover costs, the rate should vary by distance in order to give the proper price signals.

Regulatory Risk

In spite of these agreements with the government prior to privatization, investors no doubt believed that regulatory risk was still high. As a result they would only agree to purchase the generation assets at low prices. This concern about regulatory risk proved valid. Shortly after the privatization of the generation companies, the transmission company was unable to honor its agreements to purchase power. The generation companies were forced to sell their power at whatever unregulated prices they could negotiate with credit-worthy buyers.

Low regulated prices, non-payment, and high regulatory risk are the major impediments to the privatization of the remaining distribution and gas companies in state ownership. Privatization of distribution will be difficult politically because it requires that prices be raised and that consumers pay for the power and gas that they use. Yet without privatization of the distribution companies, there is little hope that either the power or gas sectors will ever function efficiently

Weaknesses

Kazakhstan needs to evaluate the various ways to reduce regulatory risk discussed above and, after consultation with possible investors, establish a regulatory regime that will support privatization. The government has taken a first step in July 1998 by enacting a law that creates a State Commission for the Regulation of Natural Monopolies that replaces the Anti-Monopoly Committee.

There are two major weaknesses in this law, however. First, it does not put in place any of the safeguards discussed above to assure that the Commission is independent of the government or political influence. Second, it does not establish a methodology or principles that the Commission will follow in setting prices. Thus the law gives little confidence to a potential investor that the Commission will set prices at cost recovery levels.

Even after the weaknesses in the law are corrected, the government will probably have to do more to reduce regulatory risk. One possibility is for the Commission to issue a license to each power sector company that includes a formula for determining future prices. In the sales agreement with the private investor, the government could guarantee that the formula would be followed. If there is any dispute over whether the formula has been followed, the government would agree to international arbitration.

Objectives of Privatization

What objectives did the Hungarian and Kazakh governments have for privatization? Were they appropriate or practical objectives? What methods of privatization did the governments use to achieve those objectives?

Efficiency

Many objectives are often given for privatization, but there are only two fundamental objectives. The first objective is to make the former state-owned enterprises well managed, efficient, and profitable -- the "efficiency" objective. Worldwide experience demonstrates that most state-owned enterprises are poorly managed, inefficient, and loss makers and that attempts to improve them while in state-ownership usually fail. Only private owners are likely to make them efficient and profitable.

Revenue

The second fundamental objective is to raise revenue for the budget. The government should obtain fair market value for the sale of these assets. These assets belong to all the citizens of the country. The sales proceeds should be used to benefit them by reducing taxes, paying for additional government services, or, best of all, reducing outstanding government debt. To avoid weakening the financial position of the government, the best use of the proceeds from the sale of an asset (power or gas sector companies) is to repay a liability (outstanding government debt). The sale of these assets at low prices should not be used to enrich a few people either local or foreign at the expense of the rest of the population.

Widespread Share Ownership

Some other objectives frequently cited in privatization programs conflict with these two fundamental objectives. One such objective is to encourage widespread share ownership. It is argued that this will increase public support for privatization and deepen capital markets (stock exchanges) because the many shareholders will frequently trade their shares. Selling the company to a single strategic investor will not allow the citizens of the country to become owners, and such an investor is unlikely to trade shares on the local stock exchange.

With regard to the efficiency objective, a strategic investor may own a similar company in another country and can supply the necessary management expertise to improve the efficient operation of the privatized company. In contrast, thousands of small shareholders can not contribute to the operation of the privatized company and will have little control over the existing managers of the company. For this reason, managers of state-owned enterprises often favor selling shares to many investors in the form of an "initial public offering" because then no owner will be able to challenge their control of the company.

A compromise position advocated by some is that a majority stake should be sold to a strategic investor while the balance is sold widely to the citizens of the country. This is

no doubt better than selling all of the shares to many small investors but still detracts from the efficiency objective. The strategic investor must share any profitability gains with the other shareholders even though they have contributed nothing to the management of the company. This reduces both the share price that he is willing to pay for the company and his incentives to improve the company.

Such ownership structures also raise difficult issues of minority shareholder protection. Will the strategic investor attempt to capture more than his fair share of the profits to the detriment of other shareholders, for example, through manipulating transfer prices between the privatized company and other companies owned by the investor? This is not an issue if the investor owns all of the privatized company. Until effective measures to protect minority shareholders are in place, the government may be doing their citizens a disservice by encouraging them to become shareholders in such a company.

Widespread share-holding schemes usually enrich a minority of the population at the expense of the majority. In order to attract small investors, shares are typically sold at below their market value contradicting the revenue objective. This is, in effect, a subsidy to the purchasers. However, only a small fraction of the population ever takes advantage of these schemes. They are usually the better paid, better educated, urban residents who have at least some savings to purchase these shares even at their reduced price. In the end, the vast majority of citizens subsidize the purchase of shares by the relatively well to do.

Capital Market Development

Artificially encouraging trading shares in recently privatized companies is of dubious value other than to create business for stockbrokers and the owners of the stock exchange. It is not surprising that they along with managers of state-owned companies often argue in favor of widespread share ownership.

The benefit of a well functioning capital market is that companies can raise capital for new investment by selling shares to the public. This requires that the companies honestly disclose their financial and operating position (for example, by providing audited financial statements prepared according to international standards) and put in place mechanisms to protect the rights of the small minority shareholders.

Meeting these two conditions is far more important than the total volume of trading on the exchange. Even if the total trading of shares in other companies is modest, this is not an impediment to a company that wishes to sell its shares to the public if it provides adequate information and minority shareholder protection and thus makes the shares attractive investments. The volume of share trading will grow naturally over time as companies access this source of capital.

Alternative Privatization Methods

What method of privatization will best achieve these two fundamental objectives? The optimal method should have the six features discussed below. Though many

privatization programs deviate from this method, the result is probably reduced efficiency improvements in the privatized company and reduced revenues for the budget.

Preferred Method

First, the government should establish clearly the industry structure and method of regulation. If the industry structure, markets for power, and method of regulation are uncertain prior to privatization, investors will be reluctant to purchase sector companies, may reduce their purchase price to reflect this risk, and defer investment in modernization and new capacity after privatization.

Second, the government should offer to sell 100 percent of the company in a competitive auction. As noted above, selling less than 100 percent of a company to a strategic investor reduces the incentive of that investor to bring about efficiency gains.

Third, the government should open the auction to all investors both domestic and foreign on equal terms. Restricting bidders to only domestic investors or giving them special preferences in the auction reduces the pool of investors who can participate. This may result in a lesser-qualified owner taking control of the company.

Fourth, the government should provide as much information as possible about the company equally to all prospective bidders. Providing only a limited amount of information will result in a lower sales price because investors can not judge the future profitability of the company. Providing information only to some of the bidders biases the outcome and may result in the selection of a less qualified owner. There may be some practical limitations, however, as to how many bidders can be included in this process requiring a pre-qualification of bidders to reduce the number.

Fifth, the government should place as few conditions as possible on how the new owner may operate the company and make these conditions known to all bidders prior to the auction. Governments sometime place conditions on how the new owner may operate the company for a variety of reasons. One reason is that the government wants to achieve some social or political objectives, for example, restricting the ability of the new owners to fire workers.

One can not say that such conditions should never be used, but they do limit the ability of the new owner to meet the efficiency objective and thus reduce the purchase price offered for the company. Such conditions impose a cost on the government in the form of a reduced purchase price and should be considered only after a careful analysis of other methods of achieving these social objectives. One of the reasons why state-owned enterprises have performed so badly in the past is because they were given a confused mixture of social, political, and commercial objectives. Governments should not repeat this mistake with newly privatized companies.

Governments sometime place conditions on sales to protect the "strategic interest" of the state. The term "strategic" is widely used in discussing privatization programs. It seems to suggest some national security concern but is rarely defined. Almost any reason why the government wishes to intervene in the management or retain ownership of a company is classified as "strategic" and thus given an aura of legitimacy.

One way governments have tried to deal with these strategic interests is to include a provision for a "golden share" in the articles of association of the company. Even after the company is entirely privatized, the government retains ownership of this special share. It confers certain rights on the government to intervene in the management of the company after privatization.

On the one hand, if there is truly a well-defined strategic interest of the state, then the terms of the golden share can be written to protect that interest. On the other hand, the terms of the golden share can give the state broad authority and discretion to intervene in the management of the company. Investors will naturally be concerned about such broad authority and will reduce their purchase price to reflect this uncertainty.

Sixth, the government should select the winning bidder based only on who offers the highest cash price to purchase the company. The justification for this single criterion is that the winning bidder most likely has the best plan for operating the company. He is willing to make the highest bid because he believes he can make the company more profitable than any of the other bidders. Thus this criterion best achieves the efficiency objective. It also best achieves the revenue objective because it results in the highest sales proceeds for the government.

Another advantage of this simple criterion is that it is transparent and easy to judge who the winner is. There is no discretion on the part of the officials charged with carrying out the privatization and thus little chance that they can be accused of favoritism or corruption in selecting the winner.

For reasons similar to why governments sometimes place conditions on the future operation of the company, governments may want to consider other criteria beside the highest bid in selecting the winning bidder. For example, governments may want to evaluate the business plan of the bidders to judge who has the best plan for managing the business. The justification for this is that the government believes it knows better than the private investors how best to manage the company or wishes the private owner to incorporate various social or political objectives in managing the company. For the reasons discussed above, this contradicts the basic reason for privatization.

Similarly, how much the new owner promises to invest in expansion and modernization is sometimes used as a criterion by governments in selecting the winning bidder. This may be appealing because of the great need for new investment in the sector, for example, to increase generation capacity and eliminate blackouts. Including such a criterion, however, can create serious complications and distortions in the bidding process. This is particularly true if the government selects a winning bidder who offers a lower purchase price but promises a higher level of future investment compared to another bidder. This can turn into a "liars' contest" where investors will promise large future investments if they can reduce their up front purchase cost. Once the investor takes over ownership, however, he expects to delay or renegotiate the investment commitment. The government's ability to enforce such a commitment is weak. The end result may be that a better-qualified and more honest owner was not selected because he

refused to make unrealistic promises about future investment but was willing to pay a higher purchase price.

A better strategy for the government is to put in place a regulatory regime that gives the proper incentives for the new private owners to invest in the sector. Investors should choose to invest in the sector because it is in their interest to do so rather than because they are forced to do so by commitments or conditions of privatization.

Cost and Delay

The major drawback of the preferred method of privatization described above is that it can be costly and take time to implement. Expensive investment bankers, consultants, and advisers must be hired to manage the process. Financial accounts for the companies must be prepared for a number of previous years and provided to investors. Investors must be given time and access to the companies to carry out "due diligence" to assure themselves about the value of the assets that they are purchasing.

Thus it must be recognized that other methods of privatization may result in less efficiency gains and less revenue for the government but can be implemented faster. Moderate efficiency gains obtained soon may be superior to larger gains obtained in the distant future.

Thus some experts argue that the method of privatization described above may not be the best if hundreds or thousands of enterprises need to be privatized quickly as is the case in the countries of Central and Eastern Europe. This has resulted in various methods of "mass privatization," for example, using vouchers.

Also the government may be able to speed up the process by negotiating directly with a limited number of buyers over the purchase price and other conditions of sale. This, however, raises questions of transparency and exposes the process to charges of corruption.

Sequencing Privatization

A special privatization issue arises in the case of the power and gas sectors. Should the government follow a particular order or sequencing in privatizing the various distribution, generation, and transmission companies assuming that the sectors are vertically separated?

In the case of power, priority is often given to the generation companies because of the higher value of their assets relative to the other companies and concern about increasing generation capacity to meet demand. The major inefficiencies and poor performance, however, are in distribution. In Central and Eastern Europe and the FSU, these are low tariffs, cross subsidies, and non-payment and barter payment. Because of the lack of revenue from the final consumers, the distribution companies do not pay the generation companies. They then can not pay for fuel, needed maintenance, or new capacity resulting in power shortages. A similar problem applies to the case of gas distribution companies.

As long as the poor performance of the power distribution companies continues, privatizing generation will be difficult if not impossible. Investors in generation will want to be assured of a reliable market for their power and credit-worthy customers who will pay for it. If the distribution companies can not pay for power, investors will be reluctant to buy generation companies or only at a low price. Similarly, the government will find it difficult to encourage private investors to purchase or develop gas production fields if the gas distribution companies that will purchase the gas have little revenue.

Thus first priority should be given to privatization of the gas and power distribution companies. This, however, may be the politically most difficult. It requires the government to increase prices to cost recovery levels, to eliminate cross subsidies, and to force customers including government ministries to pay for their gas and power. The government may try to privatize power generation first because this appears to solve the problems of power shortages without requiring unpopular actions to reform distribution companies. Privatizing generation first, however, is unlikely to be practical or to meet the fundamental objectives of privatization.

Privatization in Hungary

Objectives

In the region, Hungary had one of the earliest and fastest privatization programs for all sectors. Early on, Hungary recognized that private owners, in particular, foreign companies, were the most likely to modernize Hungarian enterprises and make them efficient and profitable. An important objective was also to obtain foreign exchange from the sale of state-owned enterprises and use this to retire the high level of external debt. Thus Hungary generally favored foreign investment and was willing to sell enterprises to those foreign strategic investors who offered the highest price.

Power Sector

Thus it is not surprising that Hungary largely followed the preferred method of privatization described above for the power sector. Prior to privatization, the government established the industry structure based on a single buyer model. As discussed above, the regulatory framework was also established with a fair degree of certainty that reduced risk for investors.

In 1993 the government attempted unsuccessfully to sell 15 percent of the shares in the distribution companies. It was quickly recognized that all the preconditions for a successful privatization were not in place, in particular, the proper regulatory and pricing regime was missing. In rethinking the approach to privatization, the government and the public debated the role of foreign strategic investors, the percent of each company that should be sold to them, and the percent to be sold to financial investors or reserved for Hungarian investors.

As in other countries, some argued that the power sector was of "strategic interest" to the nation (without defining what that means). Thus the government or at least Hungarian citizens or financial institutions should retain majority ownership. Others argued that involvement of a foreign investor was essential for the modernization of the sector, and such investors would insist on at least majority ownership and management control of the companies. Sale to strategic investors had been successful in other sectors.

During the second attempt to privatize in 1995, the political compromise was to sell only a minority shareholding (24 to 49 percent) to strategic investors. The government, however, offered investors the right to purchase a majority stake by 1997. Furthermore, the investors were promised management control immediately including the majority of seats on the boards of the companies. During the later privatization of the other sector companies, the government offered a majority shareholding immediately. The result is that strategic investors now have a majority shareholding in all privatized power companies. There were no restrictions on foreign investors, and all of the winning investors were foreign power companies.

In 1995, the government offered 14 power sector companies in a competitive auction. The only one not included was the transmission company (MVM) which also owned the single nuclear plant. Privatization was managed by the privatization agency APV (technically a company rather than an agency). It employed a well-known, international investment-banking firm (Schroders) to advise and assist.

By all accounts, MVM as the majority owner in the sector companies supported and assisted in their privatization even though this reduced its own importance and control over the sector. This is in contrast to the experience of some other countries in the region where national power holding companies have sometimes been reluctant to sell their subsidiary companies and give up control.

In the 1995 privatization effort, all of the six distribution companies were sold but only two out of the seven generation companies. The privatization of the remaining generation companies was not successful because of investor concerns about the ownership by these companies of high cost coal mines, stringent environmental obligations, and high reserve prices on the part of the government. After restructuring the terms of the offer, two more generation companies were sold by competitive auction in 1996 and 1997. Primarily because of the complications caused by the need to restructure affiliated coal mines, the government had to resort to negotiations with individual buyers to sell two more generation companies in 1997. The last thermal generation company has yet to be sold, and there are no plans to sell the single nuclear plant.

Gas Sector

In Hungary, the basic approach used to privatize the gas sector was similar to power. Financial advisers were involved early in the process. Initially, the government attempted to sell the supply/transmission company (MOL) to strategic investors. This was unsuccessful because investors were only interested in selected operations of the company that offered high returns or strategic advantages. Instead the government

offered shares through international private placements and domestic public offerings. Between 1995 and 1998, 58 percent of the shares were sold in this manner.

The government was more successful in attracting strategic investors to the gas distribution companies. A majority shareholding in each was sold to gas companies from Germany, Italy, and France. As with power, the government kept a golden share in each company. The primary criterion in selecting the winning bidder was the highest bid price. The total proceeds from the sales was approximately $0.5 billion. Because of concern over security of gas supplies and in order to diversify sources of supply, the government did require bidders to demonstrate access to additional gas supplies. Some of these supplies were subsequently purchased by MOL.

Information Disclosure

By all accounts, the privatization agency provided potential investors a complete information memorandum that included the essential information they needed to prepare their bids. Because the companies were corporatized in 1992, they could present audited financial statements for three years to investors. The one complaint was that investors would have liked more time to conduct their due diligence. Some argued that this favored investors which already had experience in the Hungarian power sector, for example, those having existing commercial relationships with the power sector companies.

Criteria for Selection

The only criterion for selecting the winning bidder was the highest bid. The government has received about US$ 1.5 billion thus far from the privatization of the power sector. The government also said that it would give a small weight to the business plan proposed by the bidders. In practice, all bidders were judged to have equally good business plans, and this criterion had no influence in the selection.

Conditions

The government placed only a few conditions or restrictions on how the new owners could manage the companies. As noted above, the new owners had to meet conditions concerning labor and employment of managers. The new owners did not find these conditions burdensome and would probably have voluntarily adopted similar programs for dealing with labor and management.

The one condition that may cause problems for the new owners is the broad provisions of the golden share held by the government. To our knowledge, the government has not attempted to exercise its rights under this share and owners have not expressed any concern about government involvement in the management of their companies, but such a possibility exists.

With regard to sequencing of privatization, the operating problems of the distribution companies were not as bad in Hungary as in other countries of the region such as Kazakhstan. However, Hungary did privatize distribution companies at the same time or prior to the generation companies.

Privatization in Kazakhstan

Compared to other countries in the region, Kazakhstan has rapidly privatized a large share of its state-owned enterprises in all sectors. The government has not usually adopted competitive auctions and has resorted to negotiations with particular investors. The privatization agreements often include conditions on how the new owners can manage the companies including obligations to make new investments.

Objectives

The government had one overriding objective in launching the privatization program for power in early 1996, namely, bringing in private owners for the generation companies as soon as possible who could halt the impending collapse of the sector. For similar reasons, the government was anxious to bring in a private investor for the gas transmission company who could help assure gas supplies. Ideally, the government should have followed the method of privatization described above that is most likely to achieve efficiency and maximum revenue for the treasury/budget. However, this method takes time to implement.

As a result of this need for speed, maximizing sales value was a luxury the government felt it could not afford. In any event, the value of the companies was not high because of their dilapidated condition due to poor maintenance, lack of an established regulatory regime, and generally chaotic conditions of the sector. For example, one coal fired plant had eight 500 MW units, but only three were operable and even these only at a fraction of their nameplate capacity.

Power Sector

During an 18-month period beginning in early 1996, a large portion of the power generation assets and the integrated utility serving the largest city, Almaty, were sold. The usual method of privatization was to negotiate with a limited number of strategic investors. The details of the negotiations are not public. However, it is reported that the government offered a power purchase agreement in which the state-owned transmission company (the predecessor of KEGOC) and local distribution companies would agree to buy power from the generation companies at reasonably attractive prices. The Ministry of Finance took on most of the past liabilities of the companies including debt, unpaid wages, and pension liabilities. In exchange, the investors made commitments concerning new investment for maintenance, modernization, and new capacity.

Stating precisely how many companies have been privatized is difficult because of the variety of transactions. These include transfer of asset ownership, granting of concessions with ownership of assets remaining with the state, and granting of management contracts sometimes with the option to buy the assets at a later date. The situation is also fluid with private investors sometimes giving up their ownership or management control.

By all accounts, the prices paid by investors were low. Investors did not pay more than $5 million in up-front cash payments for any generation plant. Tractebel is supposed

to have paid around $4 million for the distribution company serving Almaty, 1,000 MW of generation capacity, and district heating facilities.

The formal responsibility for the privatization rested with the State Privatization Committee and the State Property Committee. The architect and driving force behind the privatization, however, is reported to have been the Minister of Energy with active involvement and support by the President and Prime Minister. These high officials encouraged and often participated in the negotiations with investors. This illustrates the urgency and importance the government placed on privatization as a way of dealing with the crisis in the sector.

Almaty Regional Power Company

The most successful outcome of the privatization in the 1996-97 period was the sale of the Almaty company to Tractebel. In spite of local opposition, Tractebel was able to reduce non-payment to less than 10 percent of billings. The method used was simply to refuse service to those customers, big or small, important or unimportant, that would not pay. To publicize this hard line, Tractebel cut off supply to government ministries and the military to show that everyone must pay.

Privatizing Power Distribution

In a second attempt at privatization in 1997, the government tried to sell the national transmission company and 18 regional distribution companies but with little success. The government negotiated with two international companies (National Grid and ABB) to purchase the transmission company. Reportedly, this negotiation failed due to high prices demanded by the government, burdensome conditions imposed on the buyer, and the uncertain regulatory regime.

Since the details of the attempts to privatize distribution are confidential, we can only speculate as to why this has not been successful. One possibility is the small size of the existing distribution companies. To achieve economies of scale, they should be merged into seven or eight companies with one million or more customers and sales of 2,500 GWh or more per year. Also it is difficult for the government to give a clear description of the assets and liabilities of the distribution company being offered for sale in comparison to a single generation plant. Another possibility is the uncertain regulatory regime discussed above. An investor will not take the risk of purchasing a distribution company if it seems that the regulatory authorities will keep tariffs to final consumers low, but yet the company must pay market-determined prices for power from the privatized generation companies.

The government is continuing its efforts to privatize the remainder of the sector. Recent press reports indicate that the government has sold another distribution company and a generation company to Access Industries. The price paid is reported to be US$ 15.6 million.

Gas Transmission

In the case of privatizing the gas transmission company, the government combined both bidding and negotiation. In 1996, the government initiated a competitive bidding process that attracted bids by Tractebel, Bridas from Argentina, and a joint venture of Enron from the United States and Gaz de France.

The criteria for selection, however, were vague, and the bidding did not result in a clear winner. The government first attempted to negotiate with Bridas but could not reach an agreement. The government was then able to reach an agreement with Tractebel by June 1997.

The process could have been improved by engaging the services of a financial adviser experienced in international energy privatizations. The adviser could have helped clarify the bidding terms, assisted with the negotiations, and attracted a larger number of bidders.

Weaknesses

The major weakness in the Kazakh strategy is that the government did not privatize the gas and power distribution companies (other than the power company serving Almaty) at the same time or prior to power generation and gas transmission. As a result, the high level of non-payment at the retail level continues where state-owned companies sell electricity and gas. For example, collections for power are less than 50 percent of the amount billed and most of this is in the form of barter payments instead of cash. The rate of collection by the gas transmission company is only about 30 percent for both its sales of gas and transmission services.

Because of low prices and continuing non-payment, the power transmission company did not have the cash flow to honor its contract to buy power from the newly privatized generation companies. Consequently, the new owners of generation argued that they did not have to meet their investment commitments. As described above, the new owners had to quickly change plans and search for credit-worthy customers who could pay for their power. Even then the prices were substantially below the prices in the now defunct purchase power agreement with the transmission company. The owners delayed investment plans until they could find enough buyers to justify increasing capacity.

After distribution companies are able to pay for power, the new private owners of generation plants will be willing to invest in better maintenance or new facilities and thus increase available generation capacity. Thus the major problem in the sector now is a shortage of demand because the distribution companies lack the funds to pay for the power. The new private owners of generation are searching for markets inside and outside Kazakhstan and refuse to supply customers who do not pay.

Distribution companies that do not improve their collections have to suffer blackouts in their service areas. Such shortages, however, do not seem to provide enough incentive for the state-owned distribution companies and local government authorities to

raise prices and reduce non-payment. As the case of the Almaty distribution company illustrates, only privatization is likely to solve this fundamental inefficiency in the sector.

Conclusions

Hungary has largely followed a restructuring and privatization plan for the power and gas sectors that best assures the efficient and profitable operation of the new companies and the highest sales value for the government and citizens of the country. The one outstanding issue is how to modify the existing single-buyer model in the power sector. This needs to be done in order to comply with EU requirements to liberalize power markets, to make the market for generation more competitive, and to transfer responsibility for investment decisions from the government to private investors.

Though one can criticize the method of privatization in Kazakhstan as being noncompetitive, non-transparent, and resulting in little revenue for the government, this was probably necessary for rapid privatization considering the crisis in the power and gas sectors. The major weakness of the privatization program was not the method of privatization but the failure to privatize gas and power distribution companies.

As long as the majority of distribution companies remain in state-ownership, there is little hope for substantial improvement in the power and gas sectors because they deprive the rest of the sector the cash flow needed for modernization and expansion. Instead of the shortage of supply during the earlier crisis, the situation is now a shortage of demand. The state-owned power distribution companies can not pay the private generation companies because of low regulated prices and non-payment at the retail level. Similarly, the state-owned gas distribution companies can not pay domestic or foreign suppliers. To privatize distribution companies, the government will have to increase prices, remove cross subsidies, and establish a regulatory framework acceptable to private investors.

Part II

Privatization of the Power and Gas Industries in Hungary

Contents of Part II

Introduction

In Hungary the privatization process has started in the early 1990s, in conjunction with the transformation of the economic and political system. The built in inefficiencies of the centrally planned economies became evident and by the late 1980s it was clear to many societies that their socialist governments had lost the ability to provide critical services efficiently and to maintain acceptable economic framework. The society's response was the rejection of the political system associated with central planning and in Hungary this culminated in changes that established a democratic political system with strong mandates, among other things for transformation to market economy. This transformation involved comprehensive packages of structural changes to introduce competition, tight fiscal policies, and to enhance productivity. In countries with market economies the various sector reforms generally addressed discrete problems such as lack of capital, fiscal crisis and the like; however in former socialist countries the reasons were deeper and more general. Consequently in these conditions reforms of the public utilities were integral part of the profound social and economic changes, the transition to a market economy of a democratic society.

Public utilities such as companies that generate and supply electricity or gas are involved in unique, complex issues. The companies are usually large, capital-intensive natural monopolies and are considered to be strategic due to their critical role in the economy.

Historically they have been rather vulnerable to political interferences, mainly in areas of investment, tariffs and consumer services that in turn endangered the financial viability of the enterprises and introduced inefficiencies in the economies. Largely due to this, the generally declining economic efficiency of energy supply has become a worldwide phenomenon during the last 20 years or so. While the nature or the seriousness of the problems varied from country to country, in fact very few if any escaped completely, regardless of their economic or political systems. Often, similar problems plagued the energy sectors in both market and centrally planned economies.

In most of the ex socialist countries the restructuring of the energy sector was a central element of their reform process. They have progressed at different paces and by a variety of routes to establish new structures and models and their achievements to date are distinctive. Different strategies for the restructuring were used, especially with respect to competition, privatization and the sequencing and pace of reforms. Hungary for one has decided to give priority to privatizing the existing SOEs in the sector, and introducing appropriate conditions for competition in the various market segments at a later stage.

Regardless of the applied priorities, the sector reform(s) had to address issues in four broad areas. First, it was necessary to revise the legal framework to establish transparent rules both for the private and state owned enterprises. Second, the ownership and market structures had to be changed to introduce commercial practices and facilitate the participation of private capital. Third, a regulatory framework had to be developed, appropriate for the regulation of (natural) monopolies and for the introduction of competition. Finally energy prices had to be adjusted to reflect economic costs and to improve the financial viability of public utilities.

In the early 1990s Hungary has gathered the political will needed to introduce a market economy and privatize the energy sector. The sector's reform started by the development of the energy policy. There were two earlier versions; the first in 1990, the initial and rather weak attempt followed by in 1992 the second version which already addressed the above mentioned four issues. The most current and comprehensive one was promulgated in 1993. During a period of about five to six years the government completed the preparatory work and prerequisites for privatization including the corporatization of state-owned companies, the development of a legal framework, and the establishment of the regulatory regime in conjunction with legislated pricing policy and mechanism. It has gradually relinquished its management and ownership roles, and by 1998 divested its majority ownership in all the power and gas distribution companies and most of the power generating plants. Also by that time about 75% of the ownership of MOL Rt. (the national oil and gas importing/producing and transmission company) was sold.

The paper, in two distinct parts, describes the Hungarian privatization process reflecting the actual procedures, and the views of participants (such as the investors, managers, government officials, consumers and trade union representatives, etc.) regarding the process itself, perceived regulatory risks, basic motives for participation, "performance" after privatization etc. In the first part, the background and the process itself are presented, relying heavily on the first comprehensive report of the energy sector reform, the 1997 ESMAP Report (Power Sector Reform in Selected Countries Report No. 196/97 July 1997). Without this, the appropriate interpretation and appreciation of the "post privatization review", presented in the second part, would not be meaningful.

The paper is not intended to be a post audit of the process or its outcome. It is purely a descriptive material, the result of personal interviews with over forty investors, managers and other interested parties. (The interviews have taken place during March--May 1998.) As for the conclusions drawn, they are preliminary if not premature, particularly in view of the relatively short time that elapsed since the privatization. Nevertheless they should be useful particularly for countries where privatization is still in the future or it is in progress.

Reforming the Energy Sector in Hungary

Of all the ex-socialist countries Hungary has gone farthest in restructuring its energy sector and privatizing its energy companies. The strategic importance of the sector and the lack of indigenous resources prompted the development of a sector model that gave priority to privatization initially through strategic investors, rather than to increased competition. During the preparatory work, the sector entities (both power and gas) were transformed to corporations, the command linkages were replaced by intercompany contracts (1991/1992), the necessary legislative framework was developed, the regulatory regime was established and pricing principles and mechanism were legislated. Parallel with all these by 1994/95 the privatization strategy was also established. The government has relinquished its management role and is restricting its ownership to transmission, dispatch, and to nuclear based power generation although it is keeping "golden shares" in the privatized companies to safeguard the sector's continuous operation. Strategic and

financial investors now hold the dominant ownership in all the sector's companies with the exception of one conventional and the nuclear power generating plant and power transmission facilities.

Technical Description of the Energy Sector

In Hungary, a population of 10.3 million recently uses some 1055PJ energy annually. About 38% of this are gas, 28% is oil, 18% is coal and 16% is primary electricity. The country has a power- generating capacity of approximately 7500MW to meet a demand of about 35.1 TWh per year. Import represents about 2.1TWh per year. In fuel usage for power production nuclear represents about 38%, oil and gas some 32% and coal about 30%. The consumption of natural gas is about 12 bcm per year (almost 8bcm is imported. The main indigenous energy resource is coal, most of it with high sulfur and ash content and with low calorific value. Due to the lack of new discoveries of economic coal, gas and oil reserves, the share of import in the total energy supply is expected to increase.

In the power sector there is one nuclear plant (Paks) with high level of reliability, comparable to some of the best OECD units. By all known accounts the safety record of Paks is excellent. There are large differences in the technical level of among the coal-fired stations. With the exception of one 800 MW plant that was refurbished in the late 1980s almost all coal-fired units are to be retired not later than 2004. The bulk of oil and gas fired stations was established in the mid-1970s and while their efficiency and reliability is acceptable, they are also approaching the end of their useful life which can only be extended with sizable investments.

The design of the transmission systems (both power and gas) was influenced by the country's relationship with the CMEA. The power system totals about 5530 kilometers of line; 260 km is rated 750kV[1], to support the east-West trade, the rest of the grid is 1595km, of 400kV line, 1190km, of 220kV line and 2535 km 120kV line. MVM's Dispatch Center supported by six regional and thirty-nine local centers controls nationwide dispatching based on economic merit.

The gas systems' capacity is 15bcm/year. The high-pressure transmission system is nearly 5500 km long with the average diameter of the pipes in the range of 400-800 mm. There are 370 gas delivery stations serving as connection points to the distribution companies and to directly supplied end-users. The capacity of these gas delivery stations varies from 5,000 to 300,000 m^3/h. Indigenous production and imported gas volumes are fed into the system through 14 in-take points. Three compressor stations secure pressure build-up. Quantity and quality control and measurement are supervised at the in-take and off-take points with equipment and procedures meeting international standards. The gas distribution system is about 55,000 kms long. A complex pipeline safety and security system is in existence, based on continuous online information gathering and systematically arranged data, permitting remedial actions to be taken as necessary. The technical standards enable the Hungarian natural gas system to operate as part of the

[1] Built as part of the CMEA power system; it is not in service since 1993.

European natural gas network. There are also Underground Gas Storage (UGS) facilities with a total capacity of about 3.1bcm primarily to satisfy seasonal peak demands.

As of the end of the last decade import of power was 28% of all the supply, mostly from the FSU. After that, import declined partly due to reduced domestic demand commensurate with the economic activities and partly due to the collapse of the FSU and the unified power system of the former USSR. Regarding gas, about 60% of the requirement are imported mainly from Russia. Due to retirements, import replacements, the need for refurbishment and increased storage capacity, there is a need for substantial investments both in the power and gas subsectors.

Demand and Supply

Electricity sales peaked in 1989 but after that declined due to the economic transition related recession and structural changes. In 1992 /93 demand for power dropped to the historically low less than 30TWh. Signs of the demand recovery appear to be pronounced and growth is expected to be sustained by some 1% p.a. in the next few years. Composition of the demand has changed considerably. About 20 years ago the share of industry was almost 60%, while household consumption was only 15%. The collapse of the large, energy intensive industries, already in 1991 almost pushed the share of the household consumption (32%)) to level with the industrial usage (38%). In the future the share of industrial consumer expected to increase, but structural changes in the sector and more energy efficient processes will preclude industry's return to its previous dominant role. The six regionally based distribution companies presently serve about 5 million consumer accounts through some 145,000 kilometers of network.

Nearly 70% of the households in Hungary are natural gas consumers and this ratio keeps growing. In 1997, almost 12 bcm natural gas was sold: about 59% to households and commercial use, some 13% for power generation and the rest to industry and other users. About 77% of the gas were sold through the distribution companies. It is noted that from 1990 there was a decline in natural gas consumption in the industrial and commercial sectors but it was offset by the increased residential consumption. Household gas consumption has increased over the years due to cold winters in addition to new connections.

As the indigenous gas production is declining, import is increasing, and as a consequence, so does the critical role (both for security and economical reasons) of gas storage. Recently it was estimated that economically exploitable gas reserves are available in Hungary for another 10-12 years. However, with the changing technology and prices the presently uneconomic reserves could become viable in the future. As for now, since both import and domestic production have a fairly steady flow-rate profile, peak demands are met from underground storages.

Market Structure, Developments

The Hungarian energy sector has undergone considerable restructuring in recent years. In the power sector MVM Trust-- an integrated utility—was dominant, controlling all aspects of operation on behalf of the Government. It was organized in 11 generating,

one transmission, six distributions and four service entities, with centralized management control.

In January 1992 the MVMT entities were corporatized, establishing a legal and administrative basis for commercial type of governance. The Trust was transformed to a State owned company (MVM Rt), which became the holding entity (with 50% ownership) for 8 generating, one transmission and 6 distribution companies. Some 48% of the shares were in the hands of APV Rt, a State owned company, which inter alia, is responsible for privatization, and 2% were in the hands of the Municipalities. MVM Rt through a management contract was entrusted with all the ownership rights with the exception of divestiture.

MVM Rt's dominant role was due to its' responsibilities for: transmission and dispatch planning, the contractual arrangements with the generation and distribution entities, the safety and the reliability of the network and for the maintaining of the liquidity of the sector. As an owner it could exercise considerable influence through its presence on the companies' boards, although with diminishing operational control. In 1993 and 1994 some of the generation companies were integrated with the mines producing coal mainly for those entities. As a result, five of the generation companies became owners and operators of coal mines.[2]

Similar restructuring took place in the gas sector. The National Oil and Gas Trust (OKGT established in 1960 initially to produce and distribute LPG) gradually assumed responsibilities for managing and developing gas production and distribution facilities country-wide. It also had a monopoly for exploration until 1991 when the Mining and Concession Law introduced a tender procedure for exploration concession blocks. From the late 1960s, when natural gas became dominant, five regional distribution companies, subsidiaries of OKGT and FOGAZ (of the Municipality of Budapest) distributed gas.[3]

In 1991 considerable restructuring took place. The distribution companies became "independent" joint stock companies (although government owned), separate from MOL Rt., the successor joint stock company of OKGT. The restructuring similar to the power sector provided a basis for commercial type of governance. MOL Rt., at that stage was almost completely government owned, although some shares were in the hands of the municipalities. As part of the restructuring, the non-profile, basically service operations

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[2] In Hungary 80 % of the coal production is used for power generation. The indigenous coal has high sulfur content, is highly polluting and has low calorific value. As most of the mines were uneconomical, in 1989 a major downsizing program started a basic change from the earlier policy of promoting coal-based generation. The socioeconomic impacts of the program required its gradual implementation regardless the undesirable protracted use of inferior fuel. Nevertheless the results were considerable. Out of 27mines 13 were closed, the output was reduced by 5 million tons to some 7.5 million and the number of employees was reduced from 50,000 to some 21,000. The mines with more or less acceptable operating costs were amalgamated with the generating companies they supplied. Presently about 90% of the coal mining capacity operates under this arrangement and only five mines operate outside the integration. It is predicted that barring new technological developments by year 2010 with the depletion of the presently known viable reserves, coal mining will be finished for power generation.

[3] In addition OKGT (and its successor MOL Rt.) was the owner of oil refineries as well as extensive retail operation of refined products.

were also separated from MOL Rt. During the last few years three additional, smaller distribution companies have been established.

MOL Rt. has a dominant role in the gas market; it is basically the sole importer and (domestic) producer of natural gas. In addition to being an uncontested leader of domestic exploration it has been operating internationally for some years. MOL currently has 45 exploration blocks with a total area of 22397 sq. km in Hungary, its exploration efforts focusing on older reservoirs both around existing producing field and in new areas. Regarding the gas network itself MOL owns and operates the gas transmission pipeline (63 bar), including all the transfer stations (city gates). Beyond the city gates, the distribution companies (or the parties who ordered special connection) own and operate the system up to the border of the "consumer" property.

Institutional Arrangements

Sector Policy

The country's long term energy policy was approved by the Parliament in April 1993 with the following strategic goals:

- Reduction of one-sided energy import dependence;
- Restriction of the State's role in the sector;
- Improvement of energy efficiency;
- Prices/tariffs to reflect economic costs;
- Assertion of environmental priorities;
- Involvement of the public in energy investment decisions;
- Development of market economy while controlling monopoly interests;
- Adoption of least-cost solutions and flexible energy systems adaptable to the demand, including the involvement of private capital in system related investments. *(Two years later the IEA, based on its country analysis, has recommended virtually identical goals).*

The operational strategy called for the safe and reliable supply of energy, to encourage energy-efficient and environmentally friendly technologies and to increase the utilization of renewable energy sources while realistic profit is to be assured for the investors over their justified costs.

Institutional Responsibilities

The Parliament establishes the necessary Acts/Laws providing a broad policy basis and in some cases specific details for the sectors' operation. The government ensures the implementation of the energy policy as approved by the Parliament, issues decrees and directives regarding the implementation of the Acts of the Parliament. The Minister of Economic Affairs (formerly Industry and Trade) is responsible within the Government for energy sector related matters. Ministerial instructions, inter alia, regulate the minimum fuel reserves, establish procedures, and appoint the Director General of the

HEO and until 1997 developed and set the tariffs. The Hungarian Energy Office (HEO) regulates the sector and from 1997 develops tariffs as well but the tariffs' approval, remains the responsibility of the Minister of Trade and Industry in conjunction with the Finance Minister.

The Hungarian Energy Office (HEO)

The HEO (established in July 1994 by the Gas Act) is regulating the sector covering gas, electricity and some of the heat supply. The HEO is an administrative body with nationwide competence regarding its role and it is directed by the government and is supervised by the Minister of Economic Affairs. The HEO is legally identical to any other government entity: its decisions, in accordance with the Hungarian legal system can be challenged. The duties of HEO include consumer protection; issuance of operating licenses (e.g. for power generation, distribution, transportation of natural gas through pipelines etc.); monitoring of compliance with the conditions of licenses and appropriate Acts and decrees. Also for the event of gas and electricity shortages, it approves the sequence of interruptions. The detailed rules of pricing and its applications are drafted by the HEO, however prices are established by the Minister and promulgated by decree(s). The HEO, shall review the prices at the request of interested parties and will publish the outcome of its review. The organization of the HEO is commensurate with its objectives and tasks. The present strength is some 70 officials (all civil servants) and while it has a line item in the budget of the Ministry of Industry, currently its revenues from fees are sufficient to meet its expenses. (Annex 1. shows the organization of HEO)

Regulatory Framework

Legal Basis

Since 1988-89 a large number of legal provisions, all necessary for the reform process, were incorporated in different Acts as the political climate permitted it. The numerous amendments to and alterations of the Constitution, the Electricity Act, the Gas Supply Act the many sector related provisions in various Acts and Government Decrees, together provide the legal framework for the sectors' operations, streamlining and privatization. Annex 7 describes the Acts and Decrees, which were particularly relevant for the transition. Their diverse areas and large numbers clearly indicate the complexity of developing the required legal framework.

Licenses

The main regulatory instruments (apart from price approval) are the non-transferable licenses issued to the energy companies. The licenses are issued and monitored by the HEO. License can only be given to a financially viable entity, which is incorporated in the country. *(The safety related technical inspection of all energy facilities including those of the boilers, pressure vessels etc. are carried out by the Technical Safety Department within the Ministry of Economy. Regarding the nuclear facilities the newly established National Nuclear Energy Authority has the (technical) regulatory power; the final licensing takes into account their findings, recommendations.)*

Based on the new legal framework the licenses cover, among others, the following:

- rights and obligations of the licensee reflecting its operational profile
- regulations covering asset management including asset disposal
- obligation for establishing quality control system
- establishment of appropriate accounting systems in line with legal requirements
- rules for the creation of financial reserve
- regulations governing emergencies
- environmental impact

For power generating, licenses are valid for a definite period, depending on the technical conditions and expected useful life of the equipment and considering the environmental requirements. The licensed technical parameters of the generating company can be changed only with the approval of the HEO. For the power transmission and distribution facilities the licenses are open ended, without time specification. The license for the transmission company includes provisions for power purchase and sale, import and export activities, the right to establish capacity reserves and MVM Rt's obligations towards the generating and distribution entities. In addition its license obliges MVM Rt to undertake power system operation related activities such as medium and long term demand forecasts and to develop plans and rules for (generating and transmission) capacity expansions. According to their licenses the distributors have the obligations to supply electricity to customers within their franchise areas. The relationship between the distributors and their customers are governed by the "Rules for Electric Public Utilities" approved by the government. The distributor's license also includes provisions for purchasing electricity from the transmission company, or if it is relevant, details for establishing its (limited) import/ export activities.

Similar to the Electricity Act, the Gas Supply Act gives priority to the protection of the natural gas customer. It specifies provisions for safe and economic gas supply and distribution, and to secure the institutional system of consumer's protection. Presently MOL is the single whole sale gas supplier and as such is a key "player" on the market. The gas supplier (MOL) and the distributors carry out their activities in accordance with the Gas Supply Act, other relevant regulations and their licenses as issued by the HEO. The legal requirements for gas supply activities have to comply with the Mining Act as well which also specifies activities such as pipeline transportation and underground storage of products, which are concessions, granted, by the state. Specific laws (governing various sectors) can contain provisions on methods and detailed conditions of such activities but only within the framework of this Act.

One of the conditions for issuing a gas supply (wholesale) operation license is that the supplier should be able (and eligible) to carry out gas supply activities using its own transportation and storage system, under its own right and title, and to manage such transportation and storage system, while meeting its obligation of gas supply. The gas supplier is responsible for long term security of supply, and for the development of transportation and storage capacities.

The operation license may be issued only to an entity that is capable of long term and uninterrupted operations based on its financial and economic position, in addition to complying with technical requirements. From technical and safety point of view the Mining Bureau as an Authority and the Technical Safety Department are investigating whether the applicant has the technical requirements, qualified staff etc. for safe operations. The license holder should have a robust liquidity equivalent to at least one quarter of the annual sales revenues. Presently only MOL fulfills these conditions in Hungary and as such only this company has the "supplier" license. Consequently MOL Rt. has the responsibility for the security of the country's gas supply.

Natural gas supply and distribution is not a (geographical) concession right. The gas distributor is granted a license for its operations to serve a specific group of customers. It should enter into a long-term agreement with the gas supplier to secure gas deliveries to meet the total gas demands within its area of operation; it should meet all and any gas demand emerging in its area of operation, free of any discrimination, and it is obliged to undertake the required developments; and it may ask for a contribution to network development from the new gas consumer in specified cases and with specified conditions. In accordance with its operational license, the distributor in addition to its obligation to the "supplier", should supply the consumers up to the level of gas volume and capacity specified in its license.

The Market and the Role of MVM Rt and MOL Rt

The central role in the power market belongs to MVM Rt. It is responsible for transmission and dispatch in addition for the (longer term) generation planning. MVM is a single buyer and wholesaler in the sector. It has monopolistic right for export and import of power and in addition the right of first refusal of any new electric capacity, except for "self generation". At this time there is no open access to the grid; room for competition is based on efficiency improvements. For the generators this could alter the dispatch ranking based on economic merits, and their profitability like that of the distribution companies would improve with more efficient operation. According to their licenses the power generating entities are obliged to offer their capacity to the transmission company; they can sell directly to distributors only if the transmission company refused to take the capacity. While these arrangements characterize the sector, some exceptions regarding direct supply of customers by the generating and/or export/import activities can take place under specific arrangements. The MVM RT. Dispatch Center controls nationwide dispatching.

The power purchase contracts, inter alia, specify capacity and energy requirements, the relevant charges and provide for appropriate revisions (since 1992 they have been revised to bring them in line with the reform developments and with the legislated tariff framework). The purchase price from the generators reflects the cost of production of the specific plants therefore prices could vary considerably. However the (wholesale) prices to all the distribution companies are uniform.

The limited competition character of the market may change in the future when the sector's performance based on the current structure is expected to be reviewed. As the country is progressing to full EU integration an incentive to introduce wider competition,

probably starting at wholesale level to comply with EU's contemplated non-restrictive norms will have to be introduced. Due to the large differences in the cost structure of the generating companies (due to the different level of efficiencies), direct contracting between distribution and generating companies, was thought to result in price increases. It was considered that, in that case, all the prices would be closer to what the less efficient generators would be charging and therefore it was important to introduce a model where the consumers interests were more protected.[4]

The presence of the government in the power sector as an owner, and the limited room for competition create the potential danger of Government favoritism towards its own enterprises through decisions regarding dispatch, dividend policy etc., at the expense of the privatized entities. So far however this has not been the case in Hungary. For example in January 1997 to be able to introduce what it considered a sustainable retail tariff adjustment, the Government has temporarily waived the right of its own enterprises to the permissible full return.

The Gas Act stipulates that the "supply" and the "distribution" of gas are subject to license. The HEO issues the licenses, in which, inter alia, the (group of) customers are specified. Both the supplier(s) and the distributors have to be qualified for technical and economic eligibility. Prior to issuing a new license the HEO also considers the opinion of the local government(s). As for the gas sector, only MOL Rt. complies presently with the criteria set for gas supplier, it supervises and operates the national high-pressure gas transmission grid, underground gas storage facilities, carries out gas transit and import operations, and produces from the domestic gas fields (in fact the privatization process did not alter these activities and/or responsibilities. The natural gas transportation system is controlled and supervised through the National Telemechanic System by the Dispatcher Centers in Budapest and Siófok, (about 100kms south west of Budapest).

Pricing and Tariffs

The Hungarian Government which controlled all energy prices until 1990s began adjusting those to cost recovery levels even before they had to pay world market prices for imported energy. By the late 1980s most prices covered economic costs although prices to households lagged behind. Between 1990 and 1994 the price control was gradually removed with the exception of power, natural gas and district heat which is determined by municipalities. The Government kept adjusting controlled prices and tariff structures to improve cost recoveries and to eliminate distortions between different classes of consumers. Nevertheless lack of overall cost recovery and structural anomalies continued, although at a reducing scale.

After 1994 legislated tariff policies and regulations further addressed these issues to support the privatization process. They introduced tariff adjustments in 1995-1997

[4] The EU directive permits the division of the power market in two parts; the fully liberated market for eligible consumers and the regulated market for others. It is envisaged that by the gradual expansion of the "free" market, full liberalization expected to take place after year 2010. In year 2006 the EU will review the results of the "partial" market liberalization and based on the review suggestions for further openings will be developed.

aiming to reach economic cost recovery; established the policy basis for price determination and mechanism including the pricing formula (for power up to year 2000 and for gas till the end of 2001); and established the extent of profits that the tariffs should realize[5].

For electricity there are distinct retail tariffs for different classes of customers and for high, medium and low voltage supply; the tariff structure distinguishes between peak and off-peak supply periods and there are separate charges for capacity and energy. The retail tariffs are uniform countrywide. While quite sophisticated, the tariff structure has been historically distorted, and although by 1997 tariffs should have recovered the economic costs they still do not depict properly the cost of supplying various classes of customers. While for well over a decade the Hungarian power sector did not receive any subsidies from the Government, within the sector, considerable cross subsidization existed.

Prior to corporatization the transfer pricing of power within the sector was not based on true costs, and the decisions regarding their individual levels and directions often lacked commercial considerations. Since 1992 when the sector entities were corporatized, annually revised supply/purchase contracts, between the generating companies and MVM Rt and between the distribution companies were negotiated. While the contracts were good starting points for corporate governance and commercial relationships, due to the basically single ownership, they were an MVM Rt directed vehicle for resource transfers between the sector entities.

For electricity the new system distinguishes between tariffs/prices for generation, for wholesale and for distribution. The generators' "selling price" reflects their costs of operation and the profit or return on their capital. The wholesaler's selling price on the other hand is uniform and is based on costs (purchase price plus own operational costs) plus profit. The distributors selling price (retail tariff) is also uniform.

The formula to calculate the prices is a "price cap" regulation. It includes three main components: the actual costs of the various input elements; the expected cost changes e.g. due to inflation, different technology, exchange rate variations etc.; and measures for efficiency improvements, for cost increases exceeding inflation and caused by environmental regulations.

Regarding gas prices MOL Rt. the wholesaler/importer's sales of gas to the distributors (or large consumers) is generally based on long term (10-15 years) supply agreements with annual contractual revisions which includes stipulated monthly quantities. The principal objective for the wholesale price is similar to that of the power. It allows for cost recovery including 8% return. The complicating factor is that part of the gas is imported, so the overall gas cost, in addition to local production and operating, transmission and storage costs, should reflect border prices for import and exchange-rate variations. For years MOL Rt. Was not allowed to recover the cost of imported gas, in

[5] Only till the turn of the century; after that the profits will depend on the (market and cost) performance of the companies.

fact subsidizing (some industrial) customers. Also it is argued by MOL Rt. that for locally produced gas because of it is tradable commodity the border price should apply.

Regarding retail charges there are no separate tariffs for seasonal and off-seasonal consumption, nor for peak or off peak periods. Consumers generally pay only a commodity charge, although if they choose they can pay "capacity" charges (related to the annual maximum hourly requirement) for firm gas supply. There is a "Buffer charge" category for consumers who can be interrupted at any time and a general-purpose non-interruptible consumer category. For the purpose of proper cost recovery the tariff categories, without capacity charges would have to be reviewed. The disadvantage of this single-component tariff is that it treats all costs pro rata with the quantities sold. Some costs at low or zero gas consumption can not be recovered from consumers with this type of tariff. In this respect it is noted that a committee was set up, led by HEO and involving GDCs, MOL and various "umbrella" organizations of representations, to prepare a new draft tariff structure (in fact covering electricity as well) according to that: tariffs should reflect costs, irrespective of the purpose of consumption; tariffs should have two-components, a standard capacity charge, and a commodity charge; and tariffs should be pro rata with the value and security (degree of interruption) of gas supply.

In the last years HEO exercised its sector regulatory functions including reviewing/preparing tariff revision requests based on cost of service studies submitted by the companies. In this respect HEO's responsibilities cover electricity, reticulated gas, and "energy" supplied to district heating companies. Consistent with the requirements of the legislation, average end user price levels were to be adjusted to recover "justified" operating costs, including depreciation and financial costs as of January 1 1997. The calculation setting the starting prices at that date for the beginning of the new pricing mechanism also took into account 8 % return on individual equities of the generating companies and on the average for all the six distribution companies. Should the return exceed 12%, one half of the surplus will be rebated to the consumers. Tariff levels and structures are expected to be further adjusted to recover economic costs (including all operating costs, including depreciation based on asset values at replacement costs, and other costs such as environmental, decommissioning, and financial) in line with the cost of services provided.

While the method tariff determination included numerous uncertainties, they apparently provided sufficiently transparent rules for the sector companies, to be able to gauge the extent and timing of changes of the most important cost component. The companies can apply to the HEO for tariff revision by law annually; if warranted more often; e.g. in 1997 the practice was quarterly price correction to follow more closely the relatively high inflation. It is generally understood that revision of the formulae would take place when the conditions for joining the EU would require it.[6]

[6] It is not clear at this stage, if the revision would take place at the time of joining the EU or earlier. The present arrangements are in force until year 2001.

The Privatization

Policy Prerequisites

After years of experience with the transformation of the Hungarian energy sector, it is clear that no earlier expectations materialized for an "up-front" action program or blueprint. The sector reform, the privatization process is complicated enough in itself, even in market economy, due to administrative, financial and political problems. When the reform, like in Hungary, is integral part of the overall economic and political transformation, when the sector related problems intertwine with those of the entire society, the potential for conflicts, side tracking, stagnation and general protracting of the process is even greater. Usually in resolving these problems political practicality is the dominant factor, sector issues are often addressed together with non-sector-related matters, and/or as part of political compromises. Therefore, no critical path based on professional or technical considerations or technically logical sequence of steps could be clearly observed in the process.

The basic objectives for the privatization were:

- to modernize the sector facilities as well as to provide for the needed future expansions, to assure uninterrupted and economic energy and to introduce modern management with technical and commercial outlook (in the case of the gas sector the latter two were emphasized in addition to ensuring the supply sources;
- to secure the capital which would be needed for modernization; and
- to assist in reducing the country's external debt and in the re-establishing of the internal and external equilibrium.

Even under the socialist regime the malfunctioning economic system forced the Hungarians to turn to private sector operation from time to time. Outstanding examples were initiatives in mid 1950s in agriculture and initiatives to cover broader areas in the late 60s. Political conflicts and the overall incompatibility with the central planning defeated these initiatives. As the "drawbacks" of economic activities based on state ownership became increasingly evident, (modest but official) privatization has started in the mid 80s even before the collapse of the socialist system. By 1990, apart from some insignificant groups, all the political parties were in accord with one another and with the professional community regarding the need to privatize.

By the late 1980s the need for the political change was accepted by the entire society and it took place in a civilized manner, within the framework of accepted democratic norms. The first two democratically elected Governments were in office in their full terms (4 years each) and both of them agreed on the need for privatization. The basic disagreements between the parties revolved around the models to be employed, and the extent of private ownership in MOL Rt. or MVM Rt, and in Paks, and regarding the degree of involvement of the strategic or financial investors in the sector.

For the decision making process the political will was fundamental. However as these decisions included operational, implementation related matters as well, where personal and short run political interests were often dominant, disagreements and time

consuming processes to reach agreements protracted the reform process. This is normal in a democracy; the phenomena are not unknown to developed countries either. Nevertheless regarding privatizing the energy sector, Hungary laid the groundwork and proceeded to institute the changes relatively quickly. The time needed for these compares favorably to the timetable of many countries with long established market economy, not to mention ex- socialist countries with their systems in transition.

While the economic picture was not too favorable, the situation was stable enough and sufficiently predictable to attract prospective investors. The country was offering rapidly modernized communication systems, and other elements necessary for modern commercial operations. Also, Hungary has a large well-educated labor force and a well-trained entrepreneurial class together with the professional managers who can interface rapidly with the "western" business. Since 1989, largely for these reasons, Hungary has received more direct foreign capital investment than the other Eastern European ex socialist countries combined.

In 1993, the first and unsuccessful effort to sell some 15% stakes in the distribution companies clearly indicated that the general conditions were not sufficient. For successful privatization the need for a structured approach and for having all the necessary prerequisites i.e. the legal framework, corporatization, transparent pricing policy and mechanism and the regulatory framework in place became quite evident.[7]

Establishment of the legal framework including basic legislation such as amending the Constitution, laws including the Company Act, taxation and bankruptcy, in addition to sector specific laws were necessary to permit the sector's reform, and its appropriate operation within a market economy. Implementation of the new laws required (detailed) Government/Ministerial decree. The HEO was established in 1994 to regulate the sector, the corporatization of the sector entities were completed in 1992 and the legal framework was sufficiently developed even earlier.

Hungary began adjusting its energy prices towards cost recovery levels well before being forced to pay world market prices for imported energy. In 1990, the Parliament approved an Act for price administration; energy prices were to be determined partially by the Minister of Industry and partially (for district heating) by the municipalities. With the aim to support the economic transition the Parliament kept modifying the Act and from 1993 prices remaining under Government control were only for electricity, natural gas and district heat. With the published pricing policy and mechanism for future adjustments, the area was made sufficiently transparent and predictable with acceptable risk factors for most of the strategic investors.

Strategy

After the unsuccessful and premature attempt to privatize the distribution companies(the "15% offer"), an internationally well-known financial advisory firm,

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[7] As the 'pre-requisites' were not in place, the interested investors considered the regulatory risk rather high. Consequently they offered very low, unacceptable purchase prices and the "sale process" was canceled. In particular the absence of transparent tariff policy and mechanism, and that of the regulatory regime, influenced the prospective investors.

Schroeders of London, was appointed to assist in the privatization of the power sector and about the same time N. M. Rotschild, also a well-known firm was retained to assist in the privatization of the gas distributors and MOL Rt. The privatization strategy was formalized in 1994, prior to election, and the newly elected government took action on the implementation.

The major issues that the strategy had to address were related to: the structure of the industry: the type of the investors; the question of minority/majority ownership; role of the government. Naturally each of these areas involved decisions regarding timetables, pricing and the regulatory regime.

The Hungarians were well informed about the sector models used in other countries and the prerequisites to establish them. From 1990 onward the Hungarian administration worked on models (both for the power and the gas sectors) appropriate for local conditions. The Ministry of Industry, MVM Rt. and MOL Rt. intensified the dialogue with other countries, energy authorities and companies. Also, they started to work with foreign advisers of international reputation who were specialists in (energy) sector restructuring, regulatory and legal matters and generally in sector operation.[8] In addition both MVM Rt. and MOL Rt. was involved in protracted dialogues with the Bank and intermittently with foreign sector companies such as Ontario Hydro, New England Power, Shell (US) and DEMINEX. The model was ready for MOL in 1991 and for MVM in 1992.

A local interdisciplinary team with professionals from various ministries, authorities and sector companies worked together with the foreign advisers, developed the proposals for sector organization, legislation, pricing, regulatory framework, and for the sector models that were eventually adopted. The local members attended the necessary (political) networking that was essential for the process. The personal advisor (in energy and privatization matters) to the Prime Minister, the director of the State Privatization and Holding Company (APV Rt.), and the director of the Energy Department of the Ministry of Industry all played important roles by providing administrative and political support, as well as professional guidance during the preparation of the restructuring proposal and its implementation.

Regarding the *structure* of the energy sector, a number of alternatives (combinations of the generating and distribution functions for power and for the gas business, upstream downstream and geographical separations) were considered. For power the structure of the sector (as corporatized in 1992) was maintained, and that can be considered logical from operational point of view as well. It allowed taking advantage of the legal and accounting systems, which were tailored for the structure and were in operation. Creating a new, and not necessarily more logical or effective structure/entities for the privatization, would have called for costly and time-consuming new legal and

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[8] These experts were from the US (Department of Energy and Ohio State Public Utility Commission), France (from EdF and an Energy Advisor to the EU), UK (Department of Energy) and together they offered wide experience with different systems, models as well as experience in "EU matters". In addition, a foreign consulting firm (Coopers&Lybrand) was working on "cost of service studies", tariff matters as well as financial projections.

accounting arrangements and rearrangements, not to mention the personnel upheaval that is usually associated with these type of re-organizations.[9] Regarding MOL Rt. Although foreign experience and consultants advice on the future structure were examined, considered, the model which was introduced was developed by the energy Advisor to the Prime Minister, the Minister of Industry and 2-3 top officials of MOL Rt. They recommended not to subdivide the company to such extent that it would not be able to compete with large, foreign companies, in particular for the possibly lucrative (future east-west) transmission business. The out-sourcing of non-profile and retail activities appeared to be justified (and was implemented) but no additional "break-up" of the MOL Rt. was considered to be logical.

There was a definite need for strategic *investors*. The availability of resources for the needed investments, access to new technology and management skills, the need for assistance to reduce the country's debts, all called for investors who had the capacity to work with an untried regulatory regime, with the absence of cost reflective and market oriented pricing etc. Also the investors had to maintain the secure and trouble free energy supply. For example the bids for the gas distribution companies, among others, called for "additional self-owned" sources of gas supply, clearly to assure supply and reinforce the diversification of energy import. These could only be arranged with the involvement of strategic investors, at least initially. It was also noted that privatized Hungarian enterprises in other sectors, where the "strategic" investors were dominant, operated successfully. It was a conscious decision to delay and/or restrict the financial investor's involvement with the major exception of MOL Rt. where financial investors were involved almost from the outset.

Regarding the *minority* or *majority ownership* arrangements there were serious discussions, arguments. In some (political) circles preferences were given to the idea to have the state and at later stage national private ownership structure in public service companies of strategic interest. However, it was unlikely that strategic investors would have been attracted without management rights or at least substantial influence on the management of the companies they invested in, and at the same time accept regulatory and business risks.

Eventually, based on a political compromise, investors initially could purchase a minority holding (38.1%to 49.2% of the package held by APV Rt.) with an option to obtain majority holding within 2 years. At the same time the strategic investors received the majority seats in the Board of Directors and the Supervisory Boards of the companies. Also the investors could nominate the Chairman of the Board of Directors, but they had to keep the CEOs of the companies for two years. (It is noted that apart from one case they have kept the original CEOs even after the two years "moratorium".) These conditions were applied to the first wave of privatization. Investors during the

[9] After analyzing a number of models, the Hungarians decided to introduce sector model(s) giving preference to privatization rather than competition. Restructuring and various legal developments aimed to have a "3 tier" system with single buyer/wholesaler in the center in the power business. The ownership arrangements for the wholesaler (e.g. private/state) were and still are debated. It was envisaged (but without time specification, although in a way linked to the EU accession) that at a later stage the center tier, the wholesale operation will be "opened" making the sector operation more competitive.

privatization of the generating companies in 1996 and 1997 (this time including financial investors as well) have received the majority stakes and full management rights immediately. It is noted that by now practically all the investors have acquired majority stakes in their distribution companies through buying shares of the "cash starved" municipalities, without utilizing their "call" options.

In Hungary due to the lack of indigenous resources energy policy, strategy and their implementation is of vital interest for the society and for the government that represents it. It was considered with great care, reviewing a number of alternatives, how appropriate government control should be exercised without interfering with the operational management of the enterprises. It appears that for the time being, the model, which was developed, assures an appropriate (with some reservations) role to the government. At the same time it tends to prevent the emergence of an unduly strong entity acquiring sector-wide monopoly for the following reasons: the sector includes large number of companies (16 power and 10 gas) and most of them, in different ways, compete with each other. Nevertheless MVM Rt. in the power sector and MOL Rt. in the gas and oil sector are key "players" and the government intends to keep in MVM Rt. the majority ownership and in MOL Rt. 25% plus one share. In all the privatized companies[10] the government has a "golden" share with special rights to ensure, if necessary, the continued and appropriate operation; and established the Regulator as a government entity with strong monitoring/controlling power given to it by legislation(s). In addition the government (through its nominated Minister(s)) is the final approver of the tariffs.

The Process

In 1994 the development of a privatization strategy was basically completed with the leadership of the APV Rt.[11] and in late 1994 and 1995 several government resolutions based on the Privatization Act defined the basic principles of the process including the envisaged (post privatization) ownership structure.

While the government's intention was clear as to joining the EU and to implement EU environmental norms and standards, the appropriate legislation were not ready at the time of the privatization. As a result only a draft of the expected regulations were included in the Information Memorandum which was given to the bidders (the long overdue regulation on air pollution was introduced only in May 1998; therefore prior to that, environmental components of the investment packages were based on expectations only). Also as the environmental audits were not completed in time, distinct environmental protection guarantees had to be included in the privatization contracts.

In the case of electricity majority packages of shares of the non-nuclear power generating companies and in each of the power distribution companies were to be sold in two steps to strategic investors. Subsequent sales of the shares were not to be restricted to

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[10] FOGAZ is an exception (see para. 66)

[11] This refers to the energy sector. Prior to 1994 APV Rt. Has generated considerable revenues by privatizing key industries in other sectors (MATAV, MALEV, G. Richter etc.) Also, the foundation of the energy companies privatization including asset valuation, legal aspects, road shows etc. were carried out by APV Rt. Dur8ing the previous years.

strategic investors. The MVM Rt. was to divest its holdings in the non-nuclear generating and all of the distribution companies by the end of 1998. At the same time it was given full ownership of facilities in nuclear generation and transmission and dispatching. As for the future it was decided that the Government would retain 50% plus 1 share in MVM Rt. and a golden share[12] in each of the distribution companies. The government's intention was to sell eventually about 24% of the MVM Rt's shares to strategic investors and the rest both to strategic and financial investors.

Tender documents for the 14 power companies were issued in August 1995[13] offering minority packages of shares (24-49%) with options to buy additional shares to obtain majority ownership (except in MVM Rt) by the end of 1997. The tenders were successful for all the distribution companies and for 2 major power-generating companies and by the end of 1995 the "deals" were completed. New tenders were organized for the remaining (5) generating companies offering majority holdings immediately and two of them were sold in 1996 and 1997. Regarding the remaining three companies (with integrated coal mines) direct negotiations with potential investors started in 1997 and two of the companies were sold in the same year.[14]

Privatization of electric companies through investors raised some US$ 1.5 billion for the government (Annex 2), assisting in creating the conditions for the sustainable growth of the national economy. Some US$150 million of the privatization revenue went directly to MVM Rt. assisting in the upgrading of the transmission system and to meet the UCPTE requirements to join the Western European power pool. Subsequent to the privatization, well-recognized Hungarian and foreign, strategic and financial investors such as AES, RWE, EDF, TRACTEBEL, BAYERNWERK, IVO, TOMEN, EBW,

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[12] The Government kept one golden share in each of the privatized power and gas companies with the exception of FOGAZ, where the Budapest Municipality kept the golden share. These shares were introduced to ensure a veto power against undesirable developments. Concurrence of the golden shares owner is necessary for example to change capital structure, issue new classes of shares, to change activity profile, to carry out business amalgamations or dissolution to alter dividend or expansion policies, and so forth.

[13] The General Tender Notices and Calls for Pre-qualification were issued in August. The actual Calls for Tender and the Information Memoranda were issued in mid-October.

[14] The generating companies sold in the first round (Dunamenti and Matrai) were in considerably better technical and financial conditions than the others did. Apart from Paks and Tiszai they had the largest capacity with relatively new and efficient facilities. Even before the 1997 January tariff adjustment they were profitable (the others except Paks, were loss makers). They fuel supply was assured with economical PPAs that could be extended and they had licenses covering a relatively long period. Hardly any concession had to be made during sales negotiations. Tiszai and Budapesti were sold in the second round. Tiszai is the second largest generating facility in the country with good technical facilities, but it had coalmine and environmental related problems. The Budapesti plant which also supplies district heat and had considerable accumulated losses. In selling these plants, majority ownership was offered and both the mining/environmental obligations were reduced. Also, the Budapesti company was relieved from its accumulated book losses. In the third round, to be able to sell the remaining generating plants, price reductions were the most important factors. However it is important to notice that these companies had well prepared plans for modernization and further developments, all suitable for the new MVM capacity tender. Keeping them in the system was considered important, particularly if at the same time the government could "escape" from financial losses, system renewal related obligations etc.

ISAR-AMPERWERKE, TRANSELEKTRO, CROESUS, and EUROINVEST became important operators in the power sector. It is noted that the investors agreed not to sell their holdings for five years without government concurrence.

For the privatization of the gas distribution companies (which yielded some US$1/2 billion) and of the MOL Rt the basis and objectives were basically similar although there were some (important) differences. First, some of the ownership restriction to prevent the development of dominant integrated (even if nationally owned) monopolistic positions were stricter than in the power sector. Second, the involvement of the financial investors commenced early in the process. In the case of MOL Rt. the earlier negotiations with a large number of strategic investors were not successful, as they wanted to purchase only those selected operations of the company which offered high returns or special (strategic or other) advantages. Subsequently financial investors were targeted, and incidentally this permitted using the privatization of the sector's "flagship", to enhance the operation of the rather embrionical Hungarian financial market. Actually MOL Rt. offered a good investment opportunity. The low country and corporate risk, the unique market position, reasonable liquidity and logical corporate structure, etc. were all attracting financial investors. Also some of the earlier controversial issues such as the environmental audit were satisfactorily resolved in addition to having a detailed development program (covering refinery and retail i.e. filling station operations) in place.

Regarding the distribution companies, strategic investors were targeted and majority shareholding was offered to them (50%+ 1 vote). The winner of the TIGÁZ bid (which is the largest regional gas distributor in Hungary) was not allowed to acquire interest in any other distribution company to prevent the emergence of a monopoly position. Investors were allowed to bid, also as members of a consortium but the consortium could not have more than three members. A golden share, with special rights regarding decisions of strategic importance for the government was retained in the companies. Bidders for FÕGÁZ (Budapest) were offered both minority (with increased management rights) and majority share holding. In FOGAZ the Municipality kept the golden share. To prevent any ownership concentration, which could adversely affect application of the least cost principle or the security of supply, acquisition of more than 25% ownership in any of the distribution companies is subject to the permission of the Office of Economic Competition. MOL was not allowed to participate in the privatization of the distribution companies.

In case of MOL Rt **a** multi-phase privatization process was aimed at financial investors. Through capital market transactions three combined offerings (domestic public offerings and international private placements) took place with the aim for the government to retain eventually only 25% plus the golden share. The share offerings were:

Phase I.: 1995. Nov. - Dec. (sold 28%)

Phase II.: 1997 Apr. - May (sold 19%)

Phase III.: 1998 March (sold 11%).

The roadshows were critical elements of MOL's privatization. Experts of investment banks (CA Securities, Salamon Brothers, OTP, ING, Kleinwort Benson,

Lazard Freres, Joint Global Coordinators, Merrill Lynch), and the issuing syndicates behind them had to complete all preparatory works for listing MOL in the stock exchange. In addition, other consultants, auditor's etc. such as Deloitte and Touche, Debevois and Plimpton, Shearman and Sterling, Netherlands and Sewel etc. took part in the process.

The main shareholders in the gas sector are: 52,1% foreign investors in MOL, 47% of VEW and Ruhrgas in FÕGÁZ, 65% GdF in ÉGÁZ, 50% + 1 vote of Bayerwerk and EWN in KÖGÁZ, 91,5% of Ruhrgas and VEW in DDGÁZ, 67% of GdF in DÉGÁZ, 50% + 1 vote of Italgas-SNAM in TIGÁZ.

Security of supply was a key issue and therefore all investors had to demonstrate having additional gas resources. They all have done it and as a matter of interest the Italian bidders (now the owners of TIGAZ) offered LNG as an alternative source. The construction of the HAG Pipeline (between Gyor and Baumgarten with strategic purpose of supply diversification) was completed about that time and its capacity was not yet committed. This helped to make the additional supply source requirement a practical demand. Bidders were informed that they can not import the additional gas sources and distribute them in their respective areas of operation, but they can offer them to the supplier/importer (MOL RT.) In this respect MOL Rt. as the "single buyer" has concluded some long term supply agreements sometimes with companies, which eventually did not enter into the distribution field in Hungary.

APV RT. developed (also see para. 60) the actual process of the privatization (the selling phase"), together with foreign, financial advisors[15]. For the successful privatization it was necessary to gain the confidence of the interested foreign investors. To ensure this, the internationally known and respected firms (as mentioned above) were retained as financial, legal and technical advisors and auditors to assist in the work including the preparation of the information material and the tendering process. They actively participated in discussions with prospective investors to ensure that the tender documents included realistic provisions for their expectations as well. The financial advisors were given a financial interest in the privatization process through a success fee or price related commission. They focused on achieving prices, which realistically reflected the privatized enterprises true business value.

Due to the nature and importance of the sector for the economy made the investors' expertise an essential element for continued and efficient operation of the privatized facilities. For this reason having strategic investors was extremely important both in the process and in the final outcome (Annex 3). However there are recent examples when financial investors with the professional management of the privatized company have achieved good results. Naturally the necessary conditions had to be present to assure the investors that they would be able to operate the facilities without undue interference.

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[15] The role of the APV Rt. in fact was greater. As the owner (on behalf of the State) for example of MOL Rt. and MVM Rt., it was in the position to overcome corporate resistance to the privatization process and to enforce the policy of the government. It is noted however, that fairly soon after their corporatization, the energy companies increasingly participated in the process.

Reviewing the Sector Reform and Privatization

Motives of the Government

In the ex socialist countries, the restructuring of the energy sector was a central element of the reform process due to the strategic value and importance of the sector entities. In Hungary some additional country specific reasons made the restructuring and the privatization of the sector even more important.

First the companies in the energy sector needed capital for modernization and improved efficiency. Hungary unlike its neighbors ,has no excess capacity of energy, hence efficient production is paramount for meeting the demand and environmental "safeguards", while having the flexibility to operate in the emerging market economy. In the early 1990s the declining consumption helped to postpone investments and major maintenance expenditures, while there was no unmet demand, the level and the technical standard of capacity and reserves were questionable. For example, at least 1/3 of power generating capacity was well below acceptable level, representing 30-40 years old technologies. These power plants were using expensive and highly polluting indigenous coal. The sector's environmental "performance" was poor. None of the plants were equipped with FGD or "deNOX" units. Apart from meeting future demand substantial investments were needed to meet European standards or to fulfill existing (international) obligations. The stringent requirements for system control, stability, and frequency response, generally in line with the security and quality of supply requirements of the UCPTE have also called for considerable investments.

All these requirements could not be met by the energy industry under the conditions of the early 1990s. Due to the low tariff rates and accumulated reserves in conjunction with the reduced demand for energy (due the collapse of the large energy consuming industries) it was impossible for the companies in the sector to finance the necessary investments from internal resources16. At the same time as the whole economy was in the process of transformation, with declining GDP, high inflation, unemployment, loss of traditional markets, large deficits and debt obligations, it was quite clear that the government would not be able to finance the sector's modernization either. In fact even its indirect involvement as a guarantor of loans, became increasingly difficult. The new energy policy and the privatization strategy were articulated in these environs.

The new energy policy required: the enforcement of the least-cost principle for developing and operating the energy system; and the establishment of a market-conform ownership structure, and economic and legal regulatory environment. In line with these, the privatization strategy of the country was based on the following equal priorities; that privatization should serve long term economic policy as well as the market economy, improve efficiency and enhance access to capital resources. It should also mitigate the dependency on a single source of energy supply, encourage domestic exploration and demand side management. More specifically privatization was expected to introduce

[16] In addition to the lack of financial capacity the relatively short period of time by which the investments were needed heightened the problem. Even if tariffs could have been put instantly to the right level, there would not have been sufficient time to accumulate the needed resources.

market (and rational economic) relationships, establish appropriate environs to attract capital, bring in modern (market economy based) know-how of technology and management and assist in reducing the fiscal deficit of the state.

The economic pressure was probably the primary factor for the state to decrease its scope of responsibilities in energy supply and to leave the majority of tasks to private investors. The reduction of the dependence from single source of imported energy was an important strategic objective as well and the ability of prospective investors to diversify import was considered extremely valuable. It was believed that the potential business value of the enterprises will attract investors who, while taking responsibilities for the needed future investments, would also pay a purchase price which would assist in materially improving the country's financial position. At the same time, the secure, continuous supply of energy had to be ensured. Hence preference was given to the strategic investors.

In summary the development of market economy, reduced the state ownership and the involvement of foreign capital in the economy were perceived as essential means to improvements. The state wanted to withdraw from the majority of economic activities (including energy) and introduce competition through market mechanisms in order to enhance economic efficiency. By December 1994 a number of laws supported by government resolutions provided the basis for privatizing over 30 large companies of strategic importance. These included 16 power, five gas distribution in addition to one telecommunication, one broadcasting company and a number of banks.

Types and Motivation of Investors

While the overall general motive of an investor is to continuously improve its economic position, country and sector specific conditions combined with the investor's strategic considerations may not make this basic motive obviously the highest priority in the short run or at least at the time of an investment. The existing conditions in the country, market prospects, geographical position, etc. played a big role in how intensively investors pursued the Hungarian offers. In Hungary, the energy companies (e.g. power and gas transmission and distribution, power generating) from the outset, attracted interest from different types of investors.

Strategic investors from some developed countries in Western Europe and North America are often looking for investment opportunities worldwide. Sometimes this is due to the restricted investment opportunities in their home market or the desire to assure their energy supply from abroad. However, before they commit themselves they have to be satisfied regarding the security and the (acceptable) profitability of the prospective investments. Regarding distribution companies, shorter-term profit motives and, possibility for capturing additional markets attract investors.

In the early 1990s when the intention of both to privatize became known internationally, two types of strategic investors became interested. The first group included power generation developers such as AES and Southern Electric from the US and PowerGen from the UK. They were interested in building (preferably new) additional capacity while obtaining their own targeted returns on the investments. For them satisfactory PPAs, fuel contracts and price regulations were the main factors mitigating

regulatory risks. Those who found the regulatory regime, the country conditions and the potential returns acceptable participated in the bids. The second group consisted of large European Utilities such as EdF; GdF, RWE, Bayernwerk. They looked upon the possibilities in Hungary as a long-term marketing proposition, an extension of their existing market. They were mostly interested in the distribution part of the business and for them the country's geographical position and the targeted companies' market potential was the dominant factor. They considered price regulations and returns as longer-term objectives and while they were not willing to sustain losses on the long run, they accorded low probability to this eventuality. But not all of them; for example potential investors from the UK withdrew from the bidding as they felt uncomfortable with the pricing regulation and with the political will to adjust prices to economic cost recovery level.

Financial investors were looking for low risk investments (naturally, accepting lower returns) Generally it can be said that their initial focus was on getting a shares in the oil and gas business. In the power sector they wanted to enter through investing preferably in power generation and create for themselves a professional basis for further investments.

The political stability, the will to privatize, the legal framework, the existence of the (even if imperfect) regulatory regime, the sufficiently transparent and interpretable pricing policy/mechanism and the general eco/political environs which kept bringing the country closer to W. Europe provided a good basis for the investors. A number of steps taken or programs introduced by the state, clearly demonstrated this. An outstanding example was the "Bokros package " an austerity program, the introduction of which required strong political will and determination.

Some investors focused more on the low regulatory risks; some were banking on the background knowledge of the country or the targeted company. But some found the business and economic culture rather alien for their taste and in fact withdrew from the process. One investor, Tomen-Ivo, for example considered the regulatory risk barely acceptable, because of the PPAs were not up to international standards, and the pricing formula was valid only till year end 2000, and because of the regulatory system was open for political interference. Nevertheless they invested in a power company as they thought it is a viable proposition on the long run. Naturally the investors tried to stay close to that part of the energy business in which they had a background. In this respect the vertically integrated W. European companies had an advantage, they could easily go into distribution as well as generation.

The origin of the prospective bidder made also a difference regarding its willingness to undertake a long preparatory work in Hungary. Most of the investors from the UK and USA were very sensitive to profits and returns on a project basis. For them, buying a company was almost synonymous to investing in a project. Being strictly controlled by their shareholders, a foreign investment with possibly delayed return coupled with a higher than domestic risk, may not have been palatable. Also they were reluctant to burden their own customers with the possible foreign losses. On the other hand strategic investors from France, Italy and Germany having long term strategic goals in their home usually with considerable government support or ownership and with more

flexible possibilities for developing "cost of service studies" for tariff determination, could tolerate a relatively long time making their investment profitable. Also the regulatory system, similar to their own, gave a certain amount of comfort regarding the regulatory risk. In addition the structure of the industry and to a large extent that of the companies' was similar to those they were accustomed to.

The legal system of the country (Roman law and not common law), the managerial culture (consensus based), and geographical proximity, attracted the investors from continental Europe even more. Some German and French utilities, who later became successful bidders, have established resident offices in Hungary as early as 1991, for technical cooperation/assistance and also for carrying out due diligence. Naturally by the time the bidding documents were issued they have had intimate knowledge of the companies and the relatively short time allowed for the bids preparation did not adversely affect them. All the potential investors, regardless of their orientation and origin were evaluating carefully the EU development and its implications on the energy sector. In their final decision this was an extremely important factor whether to participate or not in the bidding.

General Factors Affecting Investment Decisions

One of the most important considerations for a prospective investor is the political stability in the country where it intends to invest. The actual (and the expected) political stability could significantly determine the investors behavior, its willingness regarding the desirable degree of ownership, requiring various guarantees and in conjunction of all these, the "price " offered for the entities. The governments should be aware of the international perception and rating of the political stability in their country and tailor their privatization strategies, methods and timing accordingly.

The geographical position of Hungary appeared to be an important factor for investors both in the power and in the oil/gas sectors. As far as power is concerned Hungary is on the way to be fully integrated in the European market and in fact in addition to its own potential generating capacity, it could assist in supplying the market with possible power flow from additional (eastern) suppliers. The cross borders connections and associated possibilities were important factors that the investors considered. In the case of gas and oil, these factors were just as important for their decision making.

Privatization was the basic concept on which Hungary's new energy policy was based. This was the foundation for the structural and ownership reform. This in itself gave an assurance to the investors that future sector operation will take place in market environs. But as to whether they will take place according to norms commensurate to market economy models, more assurances were needed and in fact were given in various forms. The obvious need to attract private capital involvement to reform and "upgrade" the sector, was reinforced with legislative steps assuring profit repatriation and governing bankruptcies, taxation policy, audits, etc.

In Hungary, both the general and the sector specific privatization policies were clear and legislated by the most critical time i.e. by the issuance of the tender documents. Nevertheless high level, authoritative personal involvement of government had a big role

in resolving privatization issues. The prospective investors were sensitive regarding details such as pricing questions, regulations, guarantees, the content of the purchase and sales agreements, power purchase, just to mention a few. Whenever answers, interpretation or decisions were needed, basically (the privatization) minister had to handle the issue, demonstrating the political will to provide (on behalf of the government) satisfactory solutions.

Strategic investors are looking for majority ownership. Profit motive did play a role in this but what appears to be more important for them is the assurance of the overall control regarding technical, operational, marketing, and personnel matters, the managerial control. If immediate majority ownership could not be arranged to assure this, than they tried to obtain provisions for this preferably in the not too far future. Often investors did not believe that with minority ownership they could ensure cost-effective profit oriented operation particularly if the remaining shares were in the hands of the government. Often they were willing to pay a premium for acquiring the management rights. However if economic and sector policies were unclear or other macro or micro matters presented an appreciable regulatory risk, than strategic investors often entered as minor "players", anticipating that from the inside they could follow the developments closely and further enhance their position when it was safe to do so.

Investors generally were looking for physical and institutional infrastructure as similar as possible to those they were accustomed to work with. Not having those (e.g. telecommunication and transport facilities, insurance framework, legal and financial advisory services as well as audit) the operational environs would be perceived uncomfortable for the investor, and his bid price would reflect it. In Hungary the prospective investors apparently could gauge the shortcomings of the "infrastructure" and could live with them. But they took into account these factors also when making their bids.

Investors indicated that they prefer bigger projects as the "fixed" costs, such as for due diligence (including the analysis of legal framework constitutional and institutional matters,) evaluation of various risk elements (political, regulatory, market), different policies (such as economic, privatization, taxation), is the same regardless the size of the project. And the bigger projects usually offer better returns. On the other hand the willingness to invest in large scale projects reduces with larger perceived risk. There are very few investors who are ready to acquire alone a large vertically integrated utility. There are strategic investors who would be willing to undertake such an investment, but only as a member of a strong consortium. This would have been the case, if for example MVM Rt. were offered for privatization together with the generating plants (integrated with the coal mines), and together with the nuclear plant.

Although the Hungarian policy, reinforced by the various acts and decrees clearly stated the objective to diminish the state's role in the energy sector's management and divest its ownership in the companies, in three respects the state retained important rights. In the existing, privatized operations the state retained (in each of the companies) one "golden share" with special rights. This was in the interest of the society to secure continuous and economic energy supply and distribution. The second more important controlling function is basically exercised through the licensing, giving the right to the

new enterprises to produce, transport and /or distribute energy to their customers, in addition to obligations regarding supply conditions, adherence to least cost principles and environmental standards. It is noted that prior to privatization the rights and obligations attached to the golden shares were not really defined and only during the final phases of the negotiations were clarified. (So far the state did not use its golden share in any of the companies to interfere with their operation. Nevertheless some of the investors indicated that, it is conceivable that some of the state's rights, through the ownership of the golden share, would bring about a conflicting situation with the licensing function.) Finally through the power given to the Minister of Industry, the government, based on the pricing formula and on the cost monitoring of HEO is the final "tariff setting " authority.

In the opinion of participants of the tender and the observers the (bid) selection process was transparent. The participation of internationally recognized advisors, the organization of the process as well as the quality of the material provided to the bidders was all considered as key elements behind the success. Different opinions were expressed regarding the short time given for the tender submission. The "real new comers" had very little chance to succeed having a short preparatory time. On the other hand according to some investors, the short time accelerated their own, often protracted decision making process. The process (i.e. for the initial purchase of the shares and the subsequent options to acquire majority ownership) the main selection criteria was the price offered for the shares; 100 points were given for an offer equal to the nominal value and reduced or increased proportionately as the offer exceeded or was below the share values. The bidders' business plan was also evaluated and quantified but it played a less important role in the evaluation. However at a later stage, this concept was strongly criticized since the bidders were strictly speaking not accountable for the content(s) of their business plan.

Regarding future contractual obligations of the bidders, the most important one, covering capacity related investments, were initially to be left to the market mechanism. However, during the process, primarily due to the insistence of the sector's professional representation, some development obligations have been introduced in the Purchase Agreements. Probably it would have been counter-productive to insist at that time on definite obligation say for developing (specified) new power capacity. Meeting such obligation while adhering to "least cost principle" would have required more detailed "project "development(s) than were available at that time. Also there were uncertainties regarding important cost elements such as fuel price "pass" through, and unclear conditions for the environmental licenses, regulations. Nevertheless the penalty for not meeting the agreed development obligation[17] was rather strict; some 10% of the capital cost of the not implemented development project(s). Also it was obligatory for the new owners to participate in the new capacity tendering which at a later stage was to be

[17] Precise development obligations (with some reservations) were requested only when well-defined and (at least) partially licensed generating projects were present. In all other cases rather general development and maintenance obligations were stipulated. Somewhat later, the unexpectedly huge interest in the capacity tender proved that if the general investment climate is correct; the pricing arrangements are reasonable; and regulatory framework is adequate than investors will develop new projects, and there will be a remarkable appetite of the financial sector to finance those projects.

announced by MVM Rt. Other employment related conditions, which were incorporated in the Agreements, covered retrenchment programs and continued employment of CEOs for two years.

Sector Specific Factors Affecting Investment decisions

By 1995 the energy market was well established worldwide. It became a separate industry, attracting primarily investors who specialized in this field or were already exposed to the market may be as financiers. Among the prospective investors in Hungary, one could find the gas companies searching for new markets or trying to strengthen their position through geographical acquisitions (supply licenses) or power utilities looking for lucrative investments to expand their generating and distribution services.

There are great differences between privatizing say a producing, a transmission and a distribution company. For start their operational licenses are different in many respect. E.g. power generators' license is for a definite time, related to their assets' useful lifetime, while the licenses of other companies do not have time limits. Naturally in their bids the investors accounted for these. Also from ownership point of view the difference between privatizing a going concern or establishing a new entity is not the same. In case of existing companies one or other form of the presence of technical know-how was imperative. In establishing say a new PI type of project, if nothing else the different contracts and agreements covering matters such as power purchase, fuel supply, operational arrangements, employment of suitable staff etc. have to be present to assure the project's success. This is just as important as the presence of a strategic investor. (On the other hand a strategic investor is usually better capable to deal with such arrangements.)

In the power sector many potential bidders were seeking the usual contract/sale model (long term agreement with legal conditions suitable for international non-recourse financing) suitable for IPP type of business. This however was not suitable for the Hungarian circumstances, even for the generating companies. These companies had their producing assets grouped at different locations and for each group a separate Power Purchase Agreement (PPA) was already in place. The PPAs were not subject to re-negotiation[18] (and realistically could not be, if for any other reason, because of shortness of time). As the structure was different from traditional market structure and as the

[18] Regarding the PPAs the bidders were specifically looking for: the usual strong guarantees by the "off-taker"; clearly regulated prices at PPA level and not for individual generators. Also they were looking for long-term fuel supply agreements (for oil and gas based generating plants) and provisions for the regulated or legislated "pass-through" principle between the fuel prices and the "off-take" prices. The absence of these due to the two digits inflation and the volatile oil and gas prices were not acceptable to many bidders to offer a reasonable bid price. In 1996 the successful bidders, the APV Rt. and the MVM Rt. agreed in principal that the PPAs and the sales contracts with the distribution companies would be reviewed. The latter was formalized within the year, largely involving matters related to long term capacity planning, invoicing, etc. No agreement was reached at that stage with the generating companies mainly because of the many differing priorities of the various investors. Finally, the January 1997 (pricing) decree has resolved a number of issues such as the requested compensation for the delayed earlier price adjustment (by introducing quarterly adjustments), and also by instituting the pass through principle. For new plants internationally "bankable" PPAs were introduced.

redrafting of the PPAs were not practical propositions, many bids were so low that they had to be rejected.

Regarding the distribution companies the investors found that they had well established networks and supporting infrastructure. There were potential gains in efficiency increases resulting from reorganization; from modern marketing and to lesser extent investments; acquiring markets (with the power companies having territorial franchises quasi supply monopoly existed). In addition the public utility concept was increasingly introduced, bringing power and gas, and (may be) water supply and waste disposal under one "roof". The potential investors for the gas distributors faced a somewhat different situation due to their (different) operational license, which instead of giving a geographical franchise stipulates the group of "customers" they supply. This arrangement actually contributes to increased competition for new customers and to cover areas so far without reticulated gas. In fact considerable investments are taking place presently in the distribution area. Particularly the residential consumption of gas is growing.

Generally the prospective investors, unless looking for an "enclave" type of acquisition, expect to operate in legal environs that satisfactorily cover both sector specific and general matters. Clearly the investors judged the general legal framework satisfactory. Regarding sector specific matters, prior to privatization, the investors described the "Electricity Act" (1994) as more developed in many respect than those of a number of EU members at the time of their privatization. The investors real concern was related to the price determination and matters left to the interpretation of the Regulator.

Regarding the regulatory regime the investors would have liked to see a more autonomous HEO. Their initial perception was that the Regulator's Office is too "close" to the Government and as such it will carry out the governments instructions. This was important since while the various rules, licensing mechanism etc. were reasonably well defined and articulated, there were a number of issues left to interpretation. And here the possibilities existed for government interference and for decisions made on the basis of political considerations. An example was the determination of acceptable costs as a basis for tariffs. Nevertheless it is noted that the EU Internal Electricity Market Directive does not call for a Regulator (independent from the Government) as a prerequisite for free competition. In fact in many EU countries Ministerial Departments act as regulators.

The regulation of the Hungarian energy sector is based on Act(s), government resolutions, licenses, operational codes and business conduct rules, and the resolutions and guidelines of HEO. Generally the investors are satisfied with the system as whole; smaller inconsistencies, particularly in the operational codes as discovered during the last two-three years, are being rectified. However, it is clear, that as the country will join the EU, the various regulations would have to be in compliance with the EU directives. The new owners expect the various issues addressed as early as possible to enable them to prepare themselves for the EU environs, for the more competitive market. In this respect one issue particularly concerns them and that is the definition and treatment of their "stranded investments".

The price regulations were not clear for many investors. The regulation as per the 1994 Act, was based on the following main considerations: (I) the time frame is from year 1997 to year 2000 (no legal provision beyond that); (ii) it is a price cap regulation based on a starting price as of January 1, 1997; and (iii) should provide a minimum of 8% real return on investments calculated on assets accepted as necessary for the licensed activities. The 8% is an average figure for the six power distribution companies. If the return of the companies exceeds 12% than the excess will be shared equally with the consumers. By definition this would be an economic cost recovery price ; (iii) the price cap nominated yearly by the Regulator (approval is Ministerial prerogative) takes into account fuel price changes, inflation, exchange rate variations etc. Practically all the prices i.e. capacity, energy at generating, wholesale, or distribution level are regulated. The privatization deals were concluded with a "promise" that the gap between the actual and economic cost recovery price level would be eliminated by three adjustments during 1996; the last adjustment not later than the end of the year. At one stage however it was promised that the last adjustment would take place in October 1996.

The major difficulty was related to the initial definition of the 8% return. The Regulator had to do this (in the first half of 1996) based on the 1995 company records and predicting an economic price for the end of 1997. The companies assets had to be reviewed to verify which are necessary for the licensed activities, review the actual costs and verify those which are justified, to develop the justifiable non-recurring costs and provisions and generally establish a creditable cost structure for the operations. The issues led to protracted arguments between all the interested parties. In addition, when the cost calculations indicated the need for an over 35% power tariff increase to reach the "economic cost recovery" level, the government rejected it on socio/political ground. Naturally all the companies objected and eventually the following compromise was developed. The final price adjustment date was moved back to beginning of 1997 as the Act stipulated originally, with a considerably lower than HEO recommended tariff increase. The 8% return was guaranteed, however, but MVM RT. and its subsidiaries like Paks were not to reach the 8% return before year 1999. Provision for some non-recurring costs such as environmental clean-up, nuclear plants decommissioning, insurance, were to be introduced gradually into the cost structures e.g. decommissioning and waste disposal from January 1998. At the same time the principle of the fuel cost "pass-through" was introduced together with quarterly tariff adjustments[19]. These adjustments took place as of January 1997 and were reasonably well accepted by the companies.

Also there was some confusion whether prices will be determined by ministerial decrees or by the Power Purchase Agreements (PPA). The delayed (however promised) price increases also caused discomfort and the lack of (fuel cost) "pass through" in the pricing formula and the absence of acknowledging the power distribution companies' individual cost structure was not well received by the investors either. Prospective investors mainly from the UK and US were not accustomed to price determination based on negotiations with authorities (like in Germany or France) and they perceived a relatively higher "regulatory risk". Most of these concerns have disappeared by now and

[19] Providing the inflation exceeds 3% over a period of 3 months.

in the shared opinion of the new owners, the present regulations and their administration are in line with the expected developments and also they are generally quite sound. That of course does not mean that there are no issues to be resolved but the new owners during the interviews indicated that they feel quite comfortable about the way these issues are being addressed.

While the prospective investors considered the local work force as well qualified, they knew that a problem of over employment exists and that in the light of needed reorganizations it could become a very serious issue. The business plans, which were submitted with the bids, have already indicated the investors' intention to reduce the number of employees. This naturally represented a potential problem for the government, which had to be resolved both with the Trade Unions representing the employees and with the investors. Finally relevant agreements which were reached between the government and the Unions were included in the privatization Sales Agreements. The salient features were naturally related to the downsizing of labor; for the next five years specific numbers were agreed for each company, and the reductions were to be achieved by divesting non-profile activities, natural attrition such as leaving and retirement. Also 5% of the privatization revenue was used to create a Fund to support the retrenched employees. In addition the owners could introduce voluntary retirement programs supported with special remuneration packages. In one of the recent privatization of a power generating plant, which is integrated with coal mines, the new owners took the obligation to provide the funds for decommissioning the mine(s).

The Expectations of the Main Parties

For the government while recognizing the importance of budgetary revenues from privatization, probably equally important expectations were related to the restructuring of the sector and specifically divesting its ownership management rights and related obligations. This has been achieved in the power sector while retaining control over system development without any the obligations of capital investments. Control was also retained over the gas and oil transmission supply, through partial ownership in MOL Rt. In addition, the government could safeguard the appropriate supply of energy through its golden shares in the energy companies,. The presence of strategic investors, in addition to these, provides access to up-to-date technology, marketing and management practices as well as capital resources.

It was argued that the privatization should have been restricted to entities in need of capital (such as power generators), and distribution companies which are closer to the market and are in the first line to absorb the market's reaction, should have been left in state hand. Actually, this approach would have defeated the aim to make the energy sector an integral part of the market economy and probably would have hindered its efficient operation. Also, the distribution company's private ownership definitely encouraged strategic investors in seeking control and ownership participation in entities whom were their suppliers thereby facilitating the sale of the power generating companies.

The government's expectations however regarding private participation in MVM Rt. and in one coal based generating plant still have not been met. This could be due to

uncertain environmental regulations and the perceived and real risks that associated with the operation of the nuclear facilities at Paks[20]. The only power generating plant that due to low bids could not be privatized (Vertes) is coal based, with obsolete assets, badly in need of costly renewal. Potential environmental obligations and the cost of phasing out the uneconomic part of the mining operation further reduce the financial viability of the facility.

The *investor's* first expectation, which was related to the transparency of the selection process, was met. Also, the investors generally agree that, despite the short "due diligence" period, they did not encounter any serious unexpected matter, neither inside the acquired entities nor in the (regulatory) system. Important expressions of the investor's comfort with the system is the keen interest to participate in the new power capacity tender and the successful floating of new shares in addition to the demand for already issued shares, of both the power and the gas companies.

However there were issues which although known to the bidders at the time of the tenders, have not been resolved yet or were resolved late or in an unsatisfactory manner. These include (without any order of importance): the lateness and the size of the tariff adjustment (of January 1997), which would have provided the starting price for future adjustments; having the return for the distribution companies averaged; and the lack of pass trough of the fuel price adjustments. The investors interviewed all noted however that in the tariff area, at least partial compensation was given through introducing quarterly adjustments in 1997. Also the pass-through (of fuel prices) principle was accepted. The question of averaging the distribution companies, return is being addressed by the companies themselves trying to introduce more efficient, cost effective operations. All the investors indicated that the present 90 days moratorium (i.e. for non-payment, the companies have to wait 90 days before suspending the services) is too long; 30 days moratorium is an internationally more acceptable standard. In this respect they expected stronger than the existing legal support for the handling of "unaccountable losses. And naturally all of them expect further adjustments to the tariff structure and levels to recover all their costs related to their operation. Some of the investors raised the desirability to separate Paks (the nuclear operation) from MVM Rt., as having both the generation, transmission and dispatch responsibilities in one entity, can lead to in conflicts of interest. In addition, practically all the parties interviewed in the sector indicated the need for increased independence of the HEO.

The *Trade Unions* were generally against the privatization for reasons related to job security, earnings and working conditions. The government as well as the investors wanted to avoid a confrontational situation over these issues. It was neither in their interest nor in the interest of the Unions or indeed of the entire society to have a situation developing which might be loaded with industrial actions. In order to lessen the political

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[20] The only bid received for Paks requested sovereign guarantees on specific nuclear issues and it was rejected as a legally non-responsive bid. The bidding took place prior to the enactment of the "Nuclear Energy Law", which set out the conditions for nuclear operation in private environment, with focus on risks related to decommissioning and third party nuclear liabilities. Establishing a (decommissioning) Fund as of January 1 1998 has solved the problem of providing for decommissioning costs.

tension and to resolve the major concerns, agreements covering various areas were reached between the Unions and the government. These areas, which inter alia, included matters related to collective agreements (the existing ones remained in force till end of December 1998), employment, salaries and wages, social benefits, operational conditions for the Unions, fund for (re) training of employees, forums for reconciliation, etc. were to be included in the "privatization sales contracts". The trade Unions expectations regarding the outcome of the privatization was based on these. Regarding wages the following figures give some indication for the sector. It is noted that the adjustments from 1996/97 exceeded the inflation:

	95/96	96/97	97/98 forecast)
Wage Increase	23.1%	21.3%	16.0%
Inflation	23.6%	18.4%	13.5%

The Unions agree that it was important to carry out the process without any interruption in the services, without strikes and generally in an orderly manner.[21] While they concede that the agreements were adhered to they maintain that: the fund, supporting training, and other incentives to encourage early retirement (5% of the privatization revenue) were too small[22]; transferring management rights to the new owners while they had minority interest was not warranted; and generally more domestic ownership would have been preferable. Also they would like to see a strong and independent HEO before the energy sector would be completely liberalized e.g. before providing producers free access to transmission and complete freedom of consumer choices.

From the *consumers* point of view it is hard to gauge the fulfillment of expectations. Quality, availability and the price of the services that mainly interest the consumers. In Hungary power or gas was available for decades without any major problem. The quality of the services was also acceptable, disruptions did not characterize the supply and the society's environmental awareness developed only during the last few years. Therefore in these areas consumers were not looking for specific improvements, they just did not want any deterioration. Regarding prices the situation was different. Household consumers accustomed to receiving relatively cheap energy, but what they did not readily realize, at subsidized prices. Although (as part of the eco/political transition) the process of eliminating price distortions between domestic and non-residential customers has started prior to the privatization, the population still identified privatization as the cause for the tariff increases (also see Annex 4). And for the higher energy prices on the short run they did not receive anything extra. It will still take some time for the consumers to understand the rationale for appropriate tariff structures and levels which on

[21] There were no major strikes or stoppages.

[22] In July 1998 it was reported in the Hungarian press that the Fund would be fully utilized by year 2005. All in all some 40,000 employees would be covered (some 9,000 have already left the sector) with an estimated HUF 600,000 each. In 1998 an estimated HUF 2.5 billion is expected to be used.

the long run benefit them. In this respect the increasing environmental awareness should play a big role. Non residential customers, who follow their energy consumption and tariff structure closely, expected the introduction of a more flexible (multiple choice) tariff structure (and service) suitable for individual consumption patterns. They also expected to benefit from the eventual lowering of production and distribution costs as a result of increasing competition among the producers. These expectations are legitimate and while receiving the benefits from cost reductions may be premature on the short run, the introduction of a more flexible tariff structure would not be an unreasonable expectation.[23]

Some Initial Results

The investors were satisfied with the capabilities of newly acquired management of the purchased companies. The purchase contracts stipulated that the new owners would retain the existing management for (minimum of) two years. This condition has been fulfilled. In 1998, almost all of the managers had their contracts typically extended with increased operational authorities. The expertise of the managers in areas of engineering, production, operation and maintenance, energy planning and energy management were highly regarded. The strategic investors in these areas could hardly transfer new "know-how". In other areas such as financial management, company restructuring, evaluation of investments, cost reduction means, marketing, human resource management, billing systems, and customer relations, considerable transfer of know-how was needed and arranged. As a result the culture of the companies' became more business like and customer oriented.

The new owners introduced a number of voluntary retirement programs with good results. DEMASZ Rt. and DEDASZ Rt. for example reduced their number of employees by over 30%, Matrai Rt. by some 40%, Tiszai Eromu by some 50% and Dunamenti Rt by some 45%. Considerable reductions took place on the gas distribution side as well. On the average about 18% of the employees have already been retrenched, however further retrenchment is needed. Two companies EGAZ and DEGAZ Rt. for example will have to shed about 1/3 of their employees to achieve the objective of two employee per 1000 customers (this is the standard ratio in the owners home operation).

Immediately after the privatization when tariffs were still on the low side, companies were rather conservative regarding investments and preparation of new projects. After the first substantial tariff adjustments in 1997 the companies' financial situation considerably improved (see Annexes 5 and 6). For example, a contrast to the

[23] The emergence of the "ESCO"-s is an indication of the movement towards cost oriented tariffs that make energy efficiency investments increasingly viable. Nevertheless it was estimated that residential consumers were still cross-subsidized by industrial/commercial consumers at the end of 1998. Recently, Hungary has adopted Decree No. 9/1999.(III.19) GM of the Minister of Economic Affairs on determining the price of electric energy supplied for consumers beside domestic consumers, Decree No. 10/1999.(III.19.)GM of the Minister of Economic Affairs on determining the price of electric energy supplied for domestic consumers and Decree No. 11/1999.(III.19.) GM of the Minister of Economic Affairs on determining a fixed fee for receiving natural gas services. The new system of electricity and gas prices will enter into force on July 1, 1999. This will be a cost-based system reducing/eliminating the cross-subsidies between classes of consumers.

previous years when they were "struggling", in 1997 with the exception of one, all the power distribution companies were making profits. Depending on their target capital-gearing ratio, companies often finance their investment programs out of retained profits. In the initial period after privatization, the investors focused on understanding their new companies' (and its management) operation and on debt reduction. Also they wanted to find their "footing" in the sector. From year 1997 onward, a wave of investments took place. Distribution companies were expanding (and improving) their network, instrumentation and their marketing programs. For example DEDASZ Rt. became profitable in 1997 (with HUF 1.2 billion net income) and with a new development-oriented depreciation policy the company could introduce a substantial maintenance and development program valued at HUF 3.8 billion in 1997 and HUF 6.0 billion in 1998. As an example the following were one of the largest power distribution company's investments in the last years: HUF 7.7 billion in 1995, HUF 7.6 billion in 1996, HUF 9.8 billion in 1997 and the plan for 1998 is HUF 13.2 billion. Naturally only actual and expected profits can support these programs and in this respect the 1997 price increases and other (e.g. quarterly adjustment) measures provided the necessary basis. On the power generating side in 1997 MVM RT has signed, six new PPAs (about 830 MW) for new projects, and 600MW for retrofitting. In addition in late July 1997, MVM Rt. announced tenders for 1700 MW[24] new capacity. For this tender, bids from some 34 potential sources, for an aggregate of 14000MW installed capacity were received.

In gas distribution, in 1995 only two out of the six companies were (somewhat) profitable. In 1997 only one had losses, but even that at a considerably reduced rate compared to previous year. It should be noted that, in 1997 some 10% more gas was sold than in 1995 with 10% increase in connections and 18% reduction in the number of employees. Specifically in the gas sector, in recent years the distribution companies connected some 100,000 new customers.

It is worth noting that restructuring was implemented without social tension, imposed economic hardships. Outsourcing programs for maintenance, constructions and various supporting activities have improved the companies' performance. Practically all distribution companies have introduced a two-tier management system with great success. In 1997, as the domestic financial market became more mature and active, the privatized companies gradually became important actors in this domestic market. MOL Rt. off course was also on the international market by that time. The distribution companies[25] are not listed on the stock exchange; their shares are traded "over the counter". Present price, with hardly any seller, is about 250% of the nominal value of the shares; MOL Rt's shares are standing at about 600%.

The EU Accession Issue

In the context of EU accession process further liberalization of the energy sector is unavoidable. The energy markets and the "networks" should be open for certain

[24] Modified to 1100 MW in February 1998

[25] DEMASZ Rt is an exception on the power side; more distribution companies are expected to be listed on the stock exchange by the end of the year.

(eligible) customers. This will effect the present restrictions on wholesale contracts, operations, entry to the system, restricted import and export pricing and practices among other things just to mention the more important areas. The Hungarian government's preparatory work to meet these conditions is well advanced, government agencies have also started consultations with the energy companies regarding their expectations related to the EU membership of Hungary. Naturally the degree of the liberalization and the timing of the various steps is of particular importance for the companies. The new owners indicated that they accounted for, particularly in their mid and longer term marketing strategies and plans, the expected changes due to the EU accession.

Concluding Observations

Under the guidance of two consecutive, democratically elected governments, the Hungarian energy sector has been restructured to make it suitable for market economy operation and it has been privatized. Considerable legal, administrative, financial and organizational work was carried out at various administrative, legislative and political levels to make this happen. There was strong agreement politically regarding the need for reform and privatization. However, as to the methods, the timing, the extent of the privatization, the future role of the state, the new structure of the sector, the need for investments, obligations, and safeguard for employees and customers, there were considerable disagreements among the various political parties, the professionals, administrators, etc. Practically the whole society was involved at one or other stage in the debate(s) regarding these matters.

When comparing the Hungarian process with that of other countries, factors need to be taken into account such as the structure of the economy and the energy sector, and the different stages of socio/economic development. Hungary was in transition to a market economy based on a democratic political system when the energy sector reform took place. While privatization has been completed for all practical purposes in the last 2-3 years, the reform process is still on going. In many ways it is far too early to judge the results, although meeting at least some of the expectations can already be assessed (see Paragraphs 108 to 115). The following paragraphs address some of the aspects of the process which received most of the critical comments mainly domestically

During the process some of the actions were not implemented at optimum *time (frame)*. Most of these actions were based directly or indirectly on some political decisions and the timing of these decisions was dependent on political considerations, expediency and opportunity. For example to obtain the Parliament's approval for a politically controversial paragraph within an Act may have taken a long time. And the agreement may be reached at a "non-optimum" time, to take advantage of the then existing political momentum.

The drawbacks of the less than optimal timing were compounded by having important sector related matters legislated as part of non-energy related legislation. However if the ongoing political opportunities were not recognized and utilized as they were during the process, than the reform of the sector would have been delayed. For example the privatization tenders should have been delayed until the PPAs were on an internationally acceptable standard. In this case the bidding would have been livelier with more participants, and might have resulted in better *prices*. The counter argument is that by not issuing the tenders at a politically opportune *time* could have delayed the privatization itself, possibly for a considerable time. Continued operation of the sector under state ownership would have delayed efficiency improvements and also would have delayed reduction of foreign debts.

The need of *selling the energy companies* was also disputed. Furthermore there was a strong sentiment that "if sales are necessary keep these important and strategic

companies in Hungarian hands". The importance of having strategic investors was only understood in professional circles. Although the need for capital was recognized by the management of the companies, the initial corporate resistance to have "new" private owners was quite strong[26]. These managers advocated a model for the sector, which was similar to the structure in France, i.e. company management, with state ownership, operating independently on the basis of periodically prepared, well-defined contracts.[27]

The companies themselves would not have been able to create funds for the needed investments in time even if the tariffs were put on an appropriate cost recovery basis. Furthermore, the energy companies would not have been able to borrow funds, at reasonable costs without government guarantees. By the mid 90s however the government due to its indebtedness was reluctant to provide loan guarantees and at that time no investor(s) within the country had that amount of capital.

The level of prices paid for the companies is another frequently debated topic in Hungary. The bids reflected the expectations of the investors regarding the market potential and also the risks that the companies would not be able to fulfill those expectations. The investors also took into account the cost of the needed new investments.

These were subjective factors and the value assigned to them depended on the investors' background, their knowledge about the sector and the companies, their compatibility with the local business culture, etc. Through appropriate actions the government could have improved its bargaining positions and increased the selling price. Examples are earlier tariff adjustments, or including the fuel cost "pass through" principle in the PPAs. With lower (perceived) regulatory risk better prices could have been achieved. The social costs associated with some of the actions (e.g. tariff adjustments) could have been considerable, and might have endangered the privatization process. In summary, among professional circles it is widely believed that the privatization revenues were not unreasonable.

There were arguments that the "national *ownership*" of these companies (government or private) is the only real safeguard of the country's (energy related) strategic interests. Actually through the "golden shares" and through the regulatory system, the government can safeguard all its "strategic interests". Furthermore tender rules (more so in the case of the gas distributors) were designed to prevent the emergence of "overly dominant" structures and these were only reinforced by the very existence and operation of the Office of Economic Competition and the HEO.

The future role (and ownership) of the MVM Rt. raised another set of questions regarding the extent of the government's involvement in the sector. The two extreme positions advocated were: (I) the government should remain the sole owner of the company; and (ii) the company should also be privatized. Decisions regarding the degree of government ownership were influenced by the decision to give priority to the privatization rather than to competition and wanting to have a closer control if necessary

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[26] Also the future role in developing the Hungarian capital market was not recognized at that stage.

[27] By the time of the actual sale the corporate resistance was negligible if present at all.

over the company which had the responsibility for the sector' development. Having limited experience with market operation, the government felt more comfortable having a restricted competition initially. As the investors had their perceived regulatory risks, the government analyzed risks associated with leaving the operation of the sector entirely to market forces. However the main issue here is not the nature of the ownership. It is more important to ensure that MVM's operation would not be an obstacle to competition, to cost based, market oriented pricing.

The sectors independence from government (or political) interference was very much judged through the role, competence and independence of the HEO. And in this area the initial signal (overruling the 1996 tariff recommendation of the HEO) was not positive. Almost without exception all the sector entities and other interested parties such as the Trade Unions and the consumer's representatives would prefer to have the professionally strong HEO independent from the government. It is widely recognized that with the market's liberalization the role of HEO would become more important. To meet with the regulatory objectives HEO needs autonomy.

Persons Interviewed

Government/Agencies

Dr. G.Racz	Director, Energy Management	APV Rt.
Mr. A.Bajkay	Director	APV Rt.
Mr. Gy. Hatvani	President	HEO
Mr. F.J. Horvath	Vice President	HEO
Mr. B. Nemeth	Deputy Director	HEO
Mr. R. Rakics	Section Head	Min. of Environment
Mr. P. Mihalyi	Dept. State Secretary	Min. of Finance
Mr. M. Nadasi	Dept. Head	Min. of Finance
Mr. P. Ligeti	Director	Min. of Economic Affairs
Dr. A. Hegedus	Deputy Director	National Bank
Dr. P. Teleki	Ex personal advisor in energy matters to the Prime Minister, ex	

Investors, Owners and Operators of Energy Companies

Power

Mr. Gy. Lengyel	Chairman	MVM Rt.
Dr. K. Kreutzer	Chairman,CEO	Bayerwerk, Hungary
Mr. S. Mayer	Chairman,CEO	AES Tisza Power Co.
Mr. J. Hunter	Project Director	PowerGen International
Mr. P. Szekely	Chairman,CEO	Transelektro Rt.
Mr. P. Kadas	Managing Director	Croesus Central Europe
Mr. C. Barta	Managing Director	Croesus Hungary
Dr. A. Przetak	Director	RWE /EVS (Investors in ELMU,
Dr. H. Luschen	Director	ELMU Rt. and EMASZ Rt.
Dr. N. Boros	Director	ELMU Rt.
Mr. B. Kunszler	CEO (ex Director, Energy	EDASZ Rt.
MR. D. Tatar	CEO	DEDASZ Rt.
Mr. T. Kuhl	Chairman, CEO	Dunamenti Rt.
Mr. A. Tombor	CEO	MVM Rt
Mr. A. Dervarics	CEO	DEMASZ Rt.

Gas

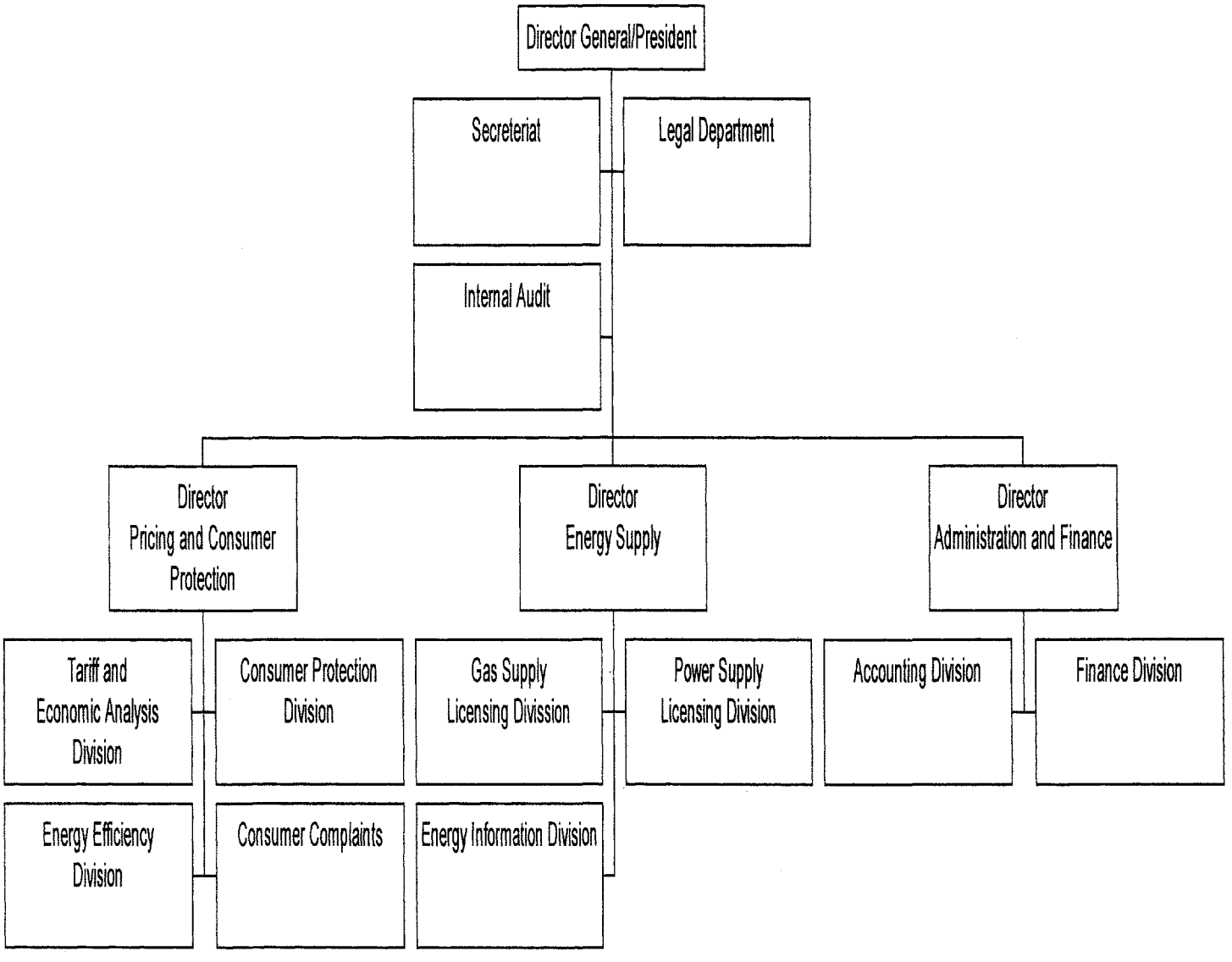
Mr. R. Kawabe	Director / Representative	IVO-TOMEN Consortium
Dr. I. Tigyi	Deputy CEO	BUDAPEST Gen. Rt.
Mr. J. Peyrusaubes	General Representative	EdF.Investor in EDASZ and
Dr. Z. Aldott	Director	MOL Rt.
Mr. I. Galambos	General Manager	DEGAZ Rt.
Mr. O. Gaal	Chairman, CEO	DEGAZ Rt.
Mr. T. Tamas	General Manager	EGAZ Rt.
Mr. P. Gyorgy	General Manager	KOGAZ Rt.
Dr. D. Vasanits	Chairman,CEO	BUDAPEST, Municipal Gasworks.

Advisors, Representative Associations

Mr. R. Gal	President	Trade Union of Electricity
Mr. L. Nemet	President	Association of Energy Consumers
Dr. D. Porpaczy	Vice President	Association of Energy Consumers
Mr. S. Dowel	Director	ENRON Europe LTD.
Mr. R. Hayhurst	Associate	Stikeman,Elliott
Mr. A. Massicote	Associate	Stikeman,Elliott
Mr. D. Freely	Manager	Schroeders

Annex 1 – HEO CHART

The Hungarian Energy Office—Organization Chart



Source: Hungary Energy Office

Note: There is an Energy Representative council with a consultative function to the Director General; it has fifteen members, three from HEO, three delegated by the gas and three by the power companies and six representing users, NGOs, and municipalities. When established over 30 organizations were invited to the Council, which meets every three months. The logistical support, such as meeting place, is provided by HEO.

Annex 2 - Estimated Purchase Prices[28] of the Power Companies

Name	Installed Capacity MW	% of Ownership Purchase	Estimated Purchase Price $Mill.
Generating Companies			
Matra	800	38	74
Dunamenti	2120	49	141
Tisza	1280	80	110
Budapesti	295	74	47
Bakonyi	183	50.1	14
Pesci	193	61	2
Distribution Companies			
Dedasz		47	108
Demasz		48	155
Edasz		48	197
Elmu		46	358
Emasz		49	164
Tatsz		49	93

Source: APV Rt. (State Privatization Agency)

[28] The figures refer to the initial acquisitions and do not represent the "entire prices of the purchased entities; they do not reflect the value of various conditions agreed to during sales negotiations. These, inter alia, included: the well defined commitments of the investors and the state regarding investments, closing down of coal mines, conditions and timing of PPAs, environmental liabilities, participation in development programs, etc. Therefore the above figures are indicative at best.

Annex 3 - Investors[29] in the Energy Sector

Company	Investors	% of Ownership
Power Distribution Companies		
DEDASZ Rt.	Bayenwerk AG	>50%
EDASZ Rt.	EdF International/Bayenwerk AG	>50%
TITASZ Rt.	Bayernwerk Group	>50%
DEMASZ Rt.	EdF International	>50%
EMASZ Rt.	RWE Energie AG/EBW AG	>50%
ELMU Rt.	RWE Energie AG/EBW AG	>50%
Power Generating Companies		
Matrai Eromu Rt.	RWE Energie AG/ EBW AG / Rheinbraun AG	>50%
Dunamenti Eromu Rt.	Tractabel S.A.	>50%
Tiszai Eromu Rt.	AES SG Ltd /AES Co.	>90%
Budapesti Eromu Rt.	Imatran Voima IVO/Toma Co.	>50%
Pecsi Eromu Rt.	Croesus CERF S.A. / Mecsek Energia Kft.	>50%
Bakopnyi Eromu Rt.	Euroinvest /Transelektro	>50%
Gas Companies		
MOL Rt.	Foreign (52.1%) Domestic (22.9%)	75%
Budapest Gas Works Rt.	VEW A.G. /Ruhrgas A.G./Employees	50%
EGAZ Rt.	GdF(65.3%)/ The rest Undall Holding/ Postabank Rt./Employees/ Municipality	100%
KOGAZ Rt.	Bayernwerk & EWN (50%)/ Municipality (40%) / The rest Postabank Rt./ Employees	100%
DDGAZ Rt.	Ruhrgas & VEW (91.58%)/ The rest Postabank Rt./Municipality /Employees	100%
DEGAZ Rt.	GdF (67.7%) / Milford International (19.9%) / The rest Postabank Rt. /Municipality	100%
TIGAZ Rt.	ITALGAS-SNAM (50%)RWE (25.2%)/ The rest Municipality/Employees/Others	100%

[29] As of April 1998

Annex 4 - Energy Fund

(Supporting energy users who cannot pay their bills)

Based on a Government decree (1032/1997(III.19)), In May 1997, a Fund was established to "assist that segment of the population which was mostly affected by the energy price adjustments (tariff increases) and to maintain their capabilities to pay their energy bills". The reason for establishing such a support was based on the recognition that with the rather depressed economy increasing number of the users are unable to pay the higher energy bills; and that it was recognized that the real (socio/economic) cost of disconnecting them from the service was higher than providing assistance. In fact the Fund was intended to fulfill a specific function of the (disappeared) social net. The Fund was established as a private, non commercial, entity with the initial participation of energy companies (such as the power generators, MVM Rt. and MOL Rt.), Association of Municipalities, representative organizations of consumers and employers. The gas companies joined the Fund at a later stage. The Board of Directors of the Fund was chaired by a Government Commissioner, and on the Board, the HEO, the Ministry for Social Welfare and the Energy Economy Association was presented as well in addition to the members representatives.

To support the Fund's operation in 1997, the government contributed HUF 1 billion and the power sector companies augmented this by HUF 472million. Initially the "compensation or support" system was covering the power consumers. However from 1998 a government contribution of HUF 700 million, with a contribution of HUF350 million from MOL Rt. and HUF 241 million from the gas distributors, the system was extended to the gas consumers (including those who are using gas for heating) as well.

The criteria for being entitled to the assistance were primarily based on:

- the entitlement for regular social support,
- receiving unemployment benefits,
- receiving (regular) educational assistance,
- being entitled to rental assistance, and
- receiving regular (non-contributory or cost recovery based) medical services.

In addition the recipients of very low income (characteristically pensioners) were also considered for the assistance. The Fund would also consider individual requests for assistance from applicants outside the above groups. Request for support was received from over 400,000 applicants (almost 10% of the total number of residential accounts) and the information was processed in September 1997. About 373,000 applicants received financial support varying between HUF1500 to HUF12000 per annum. In October 1997, the distribution companies started to credit the individual consumer's bills with the amount of support. From February 1998 the gas bills as well included the credits

representing the support. Close to 600,000 consumers (there are 2.5 million gas consuming households) were receiving between HUF 3000 to HUF 7500 support.30

The Fund has developed a program for the continued operation at least up to year 2000. The "economic cabinet" of the government supported the program and the government decided that for 1998 it would contribute to the Funds activities an amount equal to the contribution of the energy companies. For longer term, continued dependence on the government budget is neither practical nor clearly justifiable. The long- term objective of the Fund is to introduce a direct contribution from the energy consumers (a "solidarity fund" support) to the Fund.

[30] The numbers exclude support based on individual (i.e. outside the groups) requests

Annex 5 - Business Review Of The Gas Sector

	Number of settlements supplied	Number of consumers 10^3	Length of gas distribution system (km)	Natural gas sales M m^3	Number of employees	Sales Revenue M HUF	Profit M HUF
1995							
DDGÁZ	154	189	4556	569	790	7482	-949
DÉGÁZ	207	389	11239	1177	1530	15959	434
ÉGÁZ	188	160	4239	593	817	8274	-211
KÖGÁZ	194	193	4205	742	1440	11133	-123
TIGÁZ	768	780	23869	2445	3420	32972	-201
FŐGÁZ	17	734	5103	2477	2252	31525	151
1997							
DDGÁZ	215	210	5800	637	593	14004	-336
DÉGÁZ	238	437	12300	1271	1454	28625	916
ÉGÁZ	265	193	5800	772	646	16928	260
KÖGÁZ	242	214	5100	774	725	17728	303
TIGÁZ	874	888	26400	2797	3267	62542	2435
FŐGÁZ	17	755	5300	2531	1734	54194	1818

Source: Operators of Energy Companies

Annex 6 - Business Review of Power Distribution

	Number of consumers ('0000)	Electricity sold (GWh)	Sales Revenue (HUF mill.)	Profit/Loss (HUF mill.)
1995				
ELMU	1335	7724	56800	-814
EDASZ	876	5890	34296	-2425
DEDASZ	676	3611	22501	-2311
DEMASZ	726	3256	21075	+91
EMASZ	700	4925	25932	-2790
TITASZ	706	3259	20873	-2679
1997				
ELMU	1339	8072	89000	+3566
EDASZ	889	6337	61969	+316
DEDASZ	N.A.	3718	38973	+1
DEMASZ	732	3355	37551	+640
EMASZ	N.A.	4836	44606	-1170
TITASZ	719	3393	35770	+352

Source: Operators of Energy Companies

Annex 7 - List Of Relevant Legislation's And Government Resolutions

1. Acts

Act LXXXVII of 1990	on the Definition of Prices
Act XVI of 1991	on the Concession
Act V of 1992	on the amendment of Act LXXXVII of 1990
Act XLVIII of 1993	on Mining
Act XLI of 1994	on Gas Supply
Act XLVIII of 1994	on the Generation, Transmission and Supply of Electricity
Act XXXIX of 1995	on the Sale of Entrepreneurial Property Owned by the State
Act LIII of 1995	on the General Rules of Environment Protection
Act LXIX of 1995	on the amendment of Act XXXIX of 1995 on the Sale of Entrepreneurial Property Owned by the State
Act LXXI of 1995	amending Act XLVIII of 1994 on the Generation, Transmission and Supply of Electricity and certain associated legal provisions
Act LXXXII of 1995	on the Announcement of UNO General Treaty on Climate Change
Act XXI of 1996	on Land Development and Planning
Act LVII of 1996	on the Prohibition of Unfair Market Attitudes and Limitation of Competition
Act CXVI of 1996	on Nuclear Energy
Act XII of 1997	on the amendment and supplement of Act XLVIII of 1993 on Mining
Act XX of 1997	on the amendment of Act XLI of 1994 on Gas Supply
Act CXVII of 1997	on the amendment of Act IL of 1993 on Stockpiling of Imported Crude Oil and Crude Oil Products for Security Reasons
Act CLV of 1997	on Consumer Protection

2. Government Decrees

MT Dec. 21/1986. (VI.2.)	on Protection of Cleanness of the Air
Govt. Dec. 115/1993.(VII.12.)	on the implementation of Act XLVIII of 1993 on Mining
Govt. Dec. 185/1994.(XII.29.)	on the Partial Compensation of the 1995 Annual Energy Price Increase to the Public
Govt. Dec. 3/1995.(I.20.)	on the implementation of Act XLI of 1994 on Gas Supply

Govt. Dec. 34/1995.(IV.5.)	on the implementation of Act XLVIII of 1994 on the Generation, Transmission and Supply of Electricity
Govt. Dec. 95/1995.(VIII.24.)	on Restriction and Suspension of the Transmission and Supply of Electricity
Govt. Dec. 97/1995. (VIII.24.)	on amendment of the Decree of the Council of Ministers on Protection of Cleanness of the Air
Govt. Dec. 107/1995. (IX.8.)	on Licensing Procedures for the Establishment and Commissioning of Power Plants
Govt. Dec. 152/1995. (XII.12.)	on the List of Activities Requiring Environmental Impact Study, and the Detailed Regulations of the Related Administrative Procedure
Govt. Dec. 73/1996.(V.22.)	on the Procedure of Public Information, Public Hearing and Expert Group necessary for Licensing for Establishing, Commissioning of Power Plants having Significant Effects on Natural, Social and Economic Environment
Govt. Dec. 98/1996.(VII.10.)	on the Basic Program of Central Technical Development
Govt. Dec. 105/1996.(VII.16.)	on the Support for Buildings Renewals Resulting in Energy Conservation
Govt. Dec. 51/1997.(III.19.)	on Notary Tasks in connection with the Energy Fund
Govt. Dec. 87/1997.(V.28.)	on the Tasks and Scope of Authority of the National Nuclear Energy Committee, and on the Tasks and Scope of Authority and Penalizing Competence of the National Nuclear Energy Office
Govt. Dec. 194/1997.(XI.4.)	on the National Statistical Data Collection Program for 1998

3. Parliamentary Resolutions

OGY. Res. 21/1993.(IV.9.)	on the Hungarian Energy Policy

4. Governmental Resolutions

Govt. Res. 3399/1993.(X.21.)	on Prices and the Curbing of Inflation in 1994
Govt. Res. 1075/1994.(VIII.6.)	on the Organisation and Operational Regulations of the Hungarian Energy Office
Govt. Res. 1112/1994.(XII.2.)	on the Privatisation of MOL Rt.
Govt. Res. 1113/1994.(XII.7.)	on the Privatisation of the Gas Supply Companies
Govt. Res. 1114/1994.(XII.7.)	on the Privatisation of the Companies of Electricity Industry

Govt. Res. 3241/1994.(VIII.3.)	on the Rate and Schedule of Energy Price Increase
Govt. Res. 2076/1994.(VIII.6.)	on the Operating Conditions of the Hungarian Energy Office
Govt. Res. 1063/1995.(VII.6.)	on amendment of the Governmental Resolution on the Privatisation of the Companies of Electricity Industry
Govt. Res. 1064/1995.(VII.6.)	on the Privatisation Tender Conditions for the Companies of Electricity Industry
Govt. Res. 1065/1995.(VII.6.)	on the Basic Conditions of Privatisation Tenders for Gas Suppliers
Govt. Res. 1066/1995.(VII.6.)	on the amendment of Governmental Resolution 1112/1994.(XII.2.) on the Privatisation of MOL Rt.
Govt. Res. 1072/199.5.(VIII.4.)	on the amendment of Governmental Resolution 1112/1994.(XII.2.) on the Privatisation of MOL Rt.
Govt. Res. 1074/1995.(VIII.4.)	on Electricity Price Regulations and Price Adjustments up to 1 January 1997
Govt. Res. 1075/1995.(VIII.4.)	on Natural Gas Price Regulations and Price Adjustments up to 1 January 1997
Govt. Res. 2220/1995.(VIII.4.)	on the Program for Power Plant Development Objectives of the Companies of Electricity Industry and the Rights Attached to Priority Voting Shares Introduced at Power Plant and Electricity Supply Companies
Govt. Res. 1115/1995.(XI.29.)	on the amendment of Governmental Resolution 1114/1994.(XII.7.) on the Privatisation of the Companies of Electricity Industry, and of Governmental Resolution 2220/1995.(VIII.4.) on the Program for Power Plant Development Objectives of the Companies of Electricity Industry and the Rights Attached to Priority Voting Shares Introduced at Power Plant and Electricity Supply Companies, and on Certain Tasks related to the Privatisation of Electricity Industry
Govt. Res. 2398/1995.(XII.12.)	on the Involvement of the Hungarian Machine Manufacturing Industry in the Realisation of the Hungarian Power Plant Establishment Program
Govt. Res. 2399/1995.(XII.12.)	on the Action Programs related to National Energy Conservation, and to the Increase of Energy Efficiency
Govt. Res. 2018/1996.(I.31.)	on Certain Tasks in connection with the Prohibition of Unfair Market Attitudes and Limitation of Competition
Govt. Res. 2030/1996.(II.14.)	on Measures in connection with Maintaining the Safety of Energy Supply

Govt. Res. 2039/1996.(II.26.)	on the Way of Reducing the National Debt by Using Returns from Privatisation
Govt. Res. 2058/1996.(III.13.)	on Credit Negotiations in the Electricity Industry
Govt. Res. 1038/1996.(IV.26.)	on the Actual Problems of Anti-inflationary Economic Policy
Govt. Res. 2145/1996.(VI.13.)	on the Concept of Modernisation of Consumer Protection Regulations, and the Related Further Tasks
Govt. Res. 2159/1996.(VI.28.)	on the Implementation of Certain Professional Tasks of the Modernisation Program and of the Preparation for the European Integration
Govt. Res. 1113/1996.(XI.29.)	on the Establishment of a Credit Program for Energy Conservation
Govt. Res. 1122/1996.(XII.17.)	on the approval of the Amended Organisational and Operational Regulations of the Hungarian Energy Office
Govt. Res. 1131/1996.(XII.23.)	on the amendment of certain Government Resolutions on Privatisation of Companies of the Electricity Industry
Govt. Res. 1003/1997.(I.17.)	on the Partial Compensation of the Residents due to Energy Price Increase
Govt. Res. 1011/1997.(II.13.)	n the New Procedures of the Governmental Control and Coordination of Aids Provided by the PHARE Program of the European Union and the OECD Countries, on the Priorities of the PHARE National Program in 1997, and on the amendment of Governmental Resolution 1093/1994.(X.7.) on the Responsibilities and Coordination of Governmental Duties related to the European Integration, and on the repeal of certain Governmental Resolutions
Govt. Res. 1025/1997.(II.26.)	on the Governmental Committee on Information and Telecommunication technology
Govt. Res. 1032/1997.(III.19.)	on Joining the Energy Fund
Govt. Res. 1034/1997.(IV.10.)	on the Governmental Guarantee for Purchase of Energy Carriers
Govt. Res. 2075/1997.(IV.3.)	on the Hungarian Participation in the International Energy Program and in the International Energy Agency
Govt. Res. 1061/1997.(V.30.)	on the Guarantee Agreement to Be Concluded in relation to the Quick Starting Gas turbine Program

Govt. Res. 1063/1997.(VI.4.)	on the Tasks of Decreasing Inflation
Govt. Res. 2344/1997.(X.31.)	on the Protocol between the Government of the Hungarian Republic and the Government of the Kazak Republic on Gas delivery
Govt. Res. 2350/1997.(X.31.)	on the Partial Compensation of the Residents in 1997 due to Gas Price Increase
Govt. Res. 2370/1997.(XI.20.)	on the Partial Compensation of the Residents in 1998 due to Energy Price Increase
Govt. Res. 1128/1997.(XII.18.)	on the Energy Conservation Credit Program of 1998

5. Ministerial Decrees

*AH Price Regulation

108/1990.(ASz.26.)	on the Electricity Prices by Consumer Categories
* IKM Dec. 1/1992.(I.6.)	on the amendment of ÁH Price Regulation 108/1990. (ASz.26.) on the Electricity Prices by Consumer Categories
* IKM Dec. 21/1992.(VII.23.)	on Determining the Prices for Heat Energy Generated By Power Plants of the Hungarian Power Companies Ltd.
IKM Dec. 28/1994.(X.28.)	on Cooperation with the Consumer Interest Representing Organisations
IKM-PM Jt. Dec. 29/1994.(XI.4.)	on Procedural Fees of the Hungarian Energy Office
* IKM Dec. 42/1994.(XII.27.)	on Determining the Tariffs for Electricity Supplied to the Public for Household Use
IKM Dec. 43/1994.(XII.27.)	on Determining the Tariffs for Natural Gas
* IKM Dec. 44/1994.(XII.27.)	on the amendment of IKM Decree 21/1992.(VII.23.) on Determining the Prices for Heat Energy Generated by Power Plants of the Hungarian Power Companies Ltd.
* IKM Dec. 45/1994.(XII.27.)	on Determining the Tariff for Natural Gas Used for Fuel (amendment of IKM Decree 13/1993.(VII.6.))
* IKM Dec. 46/1994.(XII.27.)	on Determining the Electricity Tariffs by Consumer Categories (amendment of ÁH Price Regulation 108/1990.(ÁSZ.26.))
* IKM Dec. 2/1995.(I.13.)	on amendment of IKM Decree 21/1992.(VII.23.) on Determining the Prices for Heat Energy Generated by Power Plants of the Hungarian Power Companies Ltd.
IKM-PM Jt. Dec. 10/1995.(IV.5.)	on Procedural Fees of the Hungarian Energy Office (amendment of IKM-PM Decree 29/1994.(XI.4.))

* IKM Dec. 14/1995.(V.10.)	on amendment of IKM Decree 21/1992.(VII.23.), as amended by IKM Decree 44/1994.(XII.27.) on

Determining the Prices for Heat Energy Generated by Power Plants of the Hungarian Power Companies Ltd.

IKM Dec. 22/1995.(VII.13.)	on the Repeal of Certain Ministerial Decrees
* IKM Dec. 25/1995.(VII.21.)	on amendment of ÁH Price Regulation 108/1990.(ÁSZ.26.) on the Electricity Prices by Consumer Categories
IKM Dec. 26/1995.(VII.25.)	on the Connection Fee
IKM Dec. 27/1995.(VII.25.)	on the Minimum Level and Stockpiling of Power Plant Energy Carrier Inventories
* IKM Dec. 28/1995.(VII.25.)	on Renewable Energy, the Purchase of Electricity Generated in Certain Power Plants and Determining the Price of Electricity Falling under Obligatory Purchase
IKM Dec. 29/1995.(VII.25.)	on the Regulation of Imports and Exports of Electricity
IKM Dec. 32/1995.(VIII.8.)	on the Gas Distribution Pipeline Connection Fee
IKM Dec. 34/1995.(VIII.25.)	on Determining the Tariff for Steam and Hot Water sold by Public Electric Power Plants and their Heating Facilities (Heating Plant)
* IKM Dec. 35/1995.(VIII.25.)	on the amendment of ÁH Price Regulation 108/1990.(ÁSZ.26.) on the Electricity Prices by Consumer Categories
IKM Dec. 36/1995.(VIII.25.)	on the amendment of IKM Decree 13/1993.(VII.6.) on Determining the Tariff for Natural Gas Used for Fuel for Gas-Powered Vehicles
IKM Dec. 37/1995.(VIII.25.)	on the amendment of IKM Decree 43/1994.(XII.27.) on Determining the Tariffs for Natural Gas
IKM Dec. 38/1995.(VIII.25.)	on Determining the Tariffs for Electricity Supplied to Private Consumers for Household Purposes
* IKM Dec. 51/1995.(X.13.)	on Determining the Purchase Price of Electricity for Public Power Plants
IKM Dec. 59/1995.(XI.14.)	on Price Regulation for Natural Gas
IKM Dec. 63/1995.(XI.24.)	on Price Regulation for Electricity; Steam and Hot Water sold by Public Power Plants
IKM Dec. 7/1996.(II.21.)	on the amendment of IKM Decree 34/1995.(VIII.25.) on Determining the Tariff for Steam and Hot Water sold by Public Power Plants and their Heat Facilities (Heating Plant)

* IKM Dec. 8/1996.(II.27.)	on the amendment of IKM Decree 43/1994.(XII.27.) on Determining the Tariffs for Natural Gas
* IKM Dec. 9/1996.(II.27.)	on the amendment of IKM Decree 13/1993.(VII.6.) on Determining the Tariff for Natural Gas Used for Fuel for Gas-Powered Vehicles
* IKM Dec. 10/1996.(II.27.)	on amendment of IKM Decree 51/1995.(X.13.) on Determining the Purchase Price of Electricity for Public Power Plants
* IKM Dec. 11/1996.(II.27.)	on amendment of IKM Decree on Determining the Tariffs for Electricity Supplied to Other, Non-Household Consumers
* IKM Dec. 12/1996.(II.27.)	on amendment of IKM Decree 38/1995. (VIII.25.) on Determining the Tariffs for Electricity Supplied to Private Consumers for Household Purposes
* IKM Dec. 13/1996.(II.27.)	on amendment of IKM Decree 34/1995.(VIII.25.) on Determining the Tariff for Steam and Hot Water sold by Public Power Plants and their Heat Facilities (Heating Plant)
IKM Dec. 24/1996.(IV.12.)	on Fees to be Charged by the Gas Supplier for the Supervision of Implementation Plans the for Connection of Consumer-Owned Gas Pipelines, and for the Supervision and Qualification of Works performed on Gas Pipelines
IKM Dec. 46/1996.(X.4.)	on the amendment of Certain Price Regulations
IKM Dec. 47/1996.(X.4.)	on the amendment of Certain Ministerial Decrees related to Price Regulation of Natural Gas and Electricity
* IKIM Dec. 53/1996.(XII.20.)	on the amendment of IKM Decree 43/1994.(XII.27.) on Determining Tariffs for Natural Gas
* IKIM Dec. 54/1996.(XII.20.)	on the amendment of IKM Decree 13/1993.(VII.6.) on Determining Tariffs for Natural Gas Used to fuel Gas Powered Vehicles
* IKIM Dec. 55/1996.(XII.20.)	on Determining the Purchase Price of Electricity for Public Power Plants
* IKIM Dec. 56/1996.(XII.20.)	on the amendment of IKM Decree 38/1995. (VIII.25.) on Determining Tariffs for Electricity Supplied to Private Consumers for Household Purposes
* IKIM Dec. 57/1996.(XII.20.)	on the amendment of IKM Decree 11/1996.(II.27.) on Determining the Tariffs for Electricity Supplied to Other, Non- Household Consumers

* IKIM Dec. 58/1996.(XII.20.)	on the amendment of IKM Decree 34/1995.(VIII.25.) on Determining the Tariff for Steam and Hot Water sold by Public Power Plants and their Heating Facilities (Heating Plant)
IKIM Dec. 59/1996.(XII.20.)	on the amendment of IKM Decree 27/1995.(VII.2.) on the Minimum Level and Stockpiling of Power Plant Energy Carrier Inventories
IKIM-PM Jt. Dec. 66/1996.	on the amendment of joint IKM-PM 29/1994.(XI.4.) on Procedural Fees(XII.28.) of the Hungarian Energy Office
* IKIM Dec. 9/1997.(III.24.)	on the amendment of IKM Decree 43/1994.(XII.27.) on Determining the Tariffs for Natural Gas
* IKIM Dec. 10/1997.(III.24.)	on amendment of IKM Decree 13/1993.(VII.6.) on Determining the Tariff for Natural Gas Used for Fuel for Gas- Powered Vehicles
* IKIM Dec. 11/1997.(III.24.)	on amendment of IKIM Decree 55/1996.(XII.20.) on Determining the Purchase Price of Electricity for Public Power Plants
* IKIM Dec. 12/1997.(III.24.)	on amendment of IKM Decree 38/1995.(VIII.25.) on Determining the Tariffs for Electricity Supplied to Private Consumers for Household Purposes
* IKIM Dec. 13/1997.(III.24.)	on amendment of IKM Decree 11/1996.(II.27.) on Determining the Tariffs for Electricity Supplied to Other, Non- Household Consumers
* IKIM Dec. 14/1997.(III.24.)	on amendment of IKM Decree 34/1995.(VIII.25.) on Determining the Tariff for Steam and Hot Water sold by Public Power Plants and their Heating Facilities (Heating Plant)
* IKIM Dec. 26/1997.(VI.25.)	on amendment of IKM Decree 34/1995.(VIII.25.) on Determining the Tariff for Steam and Hot Water sold by Public Power Plants and their Heating Facilities (Heating Plant)
* IKIM Dec. 27/1997.(VI.25.)	on amendment of IKM Decree 38/1995.(VIII.25.) on Determining the Tariffs for Electricity Supplied to Private Consumers for Household Purposes
* IKIM Dec. 28/1997.(VI.25.)	on amendment of IKM Decree 11/1996.(II.27.) on Determining the Tariffs for Electricity Supplied to Other, Non- Household Consumers
* IKIM Dec. 29/1997.(VI.25.)	on amendment of IKIM Decree 55/1996.(XII.20.) on Determining the Purchase Price of Electricity for Public Power Plants

* IKIM Dec. 30/1997.(VI.25.)	on the amendment of IKM Decree 43/1994.(XII.27.) on Determining the Tariffs for Natural Gas
* IKIM Dec. 31/1997.(VI.25.)	on amendment of IKM Decree 13/1993.(VII.6.) on Determining the Tariff for Natural Gas Used for Fuel for Gas- Powered Vehicles
* IKIM Dec. 32/1997.(VI.25.)	on amendment of IKM Decree 63/1995.(XI.24.) on Price Regulation for Electricity; Steam and Hot Water sold by Public Power Plants
IKIM Dec. 33/1997.(VI.25.)	on amendment of IKM Decree 59/1995.(XI.14.) on Price Regulation for Natural Gas
IKIM Dec. 51/1997.(IX.23.)	on amendment of IKM Decree 63/1995.(XI.24.) on Price Regulation for Electricity; Steam and Hot Water sold by Public Power Plants
* IKIM Dec. 52/1997.(IX.23.)	on the amendment of IKM Decree 43/1994.(XII.27.) on Determining the Tariffs for Natural Gas
* IKIM Dec. 53/1997.(IX.23.)	on amendment of IKM Decree 13/1993.(VII.6.) on Determining the Tariff for Natural Gas Used for Fuel for Gas- Powered Vehicles
* IKIM Dec. 54/1997.(IX.23.)	on amendment of IKIM Decree 55/1996.(XII.20.) on Determining the Purchase Price of Electricity for Public Power Plants
* IKIM Dec. 55/1997.(IX.23.)	on amendment of IKM Decree 38/1995.(VIII.25.) on Determining the Tariffs for Electricity Supplied to Private Consumers for Household Purposes
* IKIM Dec. 56/1997.(IX.23.)	on amendment of IKM Decree 11/1996.(II.27.) on Determining the Tariffs for Electricity Supplied to Other, Non- Household Consumers
* IKIM Dec. 57/1997.(IX.23.)	on amendment of IKM Decree 34/1995.(VIII.25.) on Determining the Tariff for Steam and Hot Water sold by Public Power Plants and their Heating Facilities (Heating Plant)
IKIM Dec. 62/1997.(XI. 26.)	on Geological and Mining Requirements for Location and Planning of Establishments of Radioactive Waste Deposition
IKIM Dec. 66/1997.(XII. 17.)	on the Minimum Level and Stockpiling of Power Plant Energy Carrier Inventories
IKIM Dec. 67/1997.(XII. 18.)	on the Operation and Proceeding of the Central Nuclear Monetary Fund
IKIM Dec. 72/1997.(XII. 21.)	on the amendment of IKM Decree 43/1994.(XII.27.) on Determining the Tariffs for Natural Gas

IKIM Dec. 73/1997.(XII. 21.)	on amendment of IKM Decree 13/1993.(VII.6.) on Determining the Tariff for Natural Gas Used for Fuel for Gas- Powered Vehicles
IKIM Dec. 74/1997.(XII. 21.)	on amendment of IKIM Decree 55/1996.(XII.20.) on Determining the Purchase Price of Electricity for Public Power Plants
IKIM Dec. 75/1997.(XII. 21.)	on amendment of IKM Decree 38/1995.(VIII.25.) on Determining the Tariffs for Electricity Supplied to Private Consumers for Household Purposes
IKIM Dec. 76/1997.(XII. 21.)	on amendment of IKM Decree 11/1996.(II.27.) on Determining the Tariffs for Electricity Supplied to Other, Non- Household Consumers
IKIM Dec. 77/1997.(XII. 21.)	on amendment of IKM Decree 34/1995.(VIII.25.) on Determining the Tariff for Steam and Hot Water sold by Public Power Plants and their Heating Facilities (Heating Plant)

6. Official statements

IKM-PM-MEH Official Statement

101/1995.(IKK 16.) for a uniform interpretation of Government Resolution 1074/1995. (VIII.4.) on Electricity Price Regulations and Price Adjustments up to 1 January 1997

IKM-PM-MEH Official Statement

102/1995.(IKK 16.) for a uniform interpretation of Government Resolution 1075/1995.(VIII.4.) on Natural Gas Price Regulations and Price Adjustments up to 1 January 1997, related to the gas seller (MOL Rt.)

IKM-PM-MEH Official Statement

103/1995.(IKK 16.) for a uniform interpretation of Government Resolution 1075/1995.(VIII.4.) on Natural Gas Price Regulations and Price Adjustments up to 1 January 1997, related to the gas supply companies

IKM-MEH joint guideline on the licensing procedure of power plant establishment and on the 36/1997.(IKK 3.) general rules of tendering

Note:

* in the meantime the regulation became void

Part III

Privatization of the Power and Gas Industries in Kazakhstan

Contents of Part III

Power Industries Privatization

In a two-year timeframe between 1996-97, the Government of Kazakhstan successfully privatized most of the nation's power generation assets and a few distribution franchises. What stands out is the large proportion of total power sector assets that were brought under private ownership, and the short time frame in which it was done. This review of the Kazakh power privatization experience examines the privatization process and the outcomes. There are two reasons why this review is being done. First, it is intended to help other countries considering the privatization of their own power sector by providing insights to sharpen their respective strategies. Second, it is intended to take stock of the preliminary outcomes from privatization in Kazakhstan and re-align strategies for future privatizations in the sector.

Privatization Score Card

As we look back on the events of the last two years, one point which is both interesting and also unfortunate emerges — neither the private sector nor the government is completely satisfied with the outcome of the privatization. The private investor feels that the government is not living up to its side of the bargain, and the government feels that the private investors got a very sweet bargain and some concessions are in order. There is very little feedback from the consumer groups. But consumers in general feel both squeezed by increasing prices and a little cheated by the government. Consumers have the perception that the government skimmed off large rents from the privatization, leaving them with price increases in an environment of growing unemployment and economic contraction. Without making a judgment on whether these perceptions and allegations are valid, this general dissatisfaction is prima facie evidence that the privatization did not lead to the proverbial "win-win outcome". The silver lining on this dark cloud of dissatisfaction is that everyone concerned seems to have learned some very useful lessons, and efforts are being made to move forward to salvage the situation. Therefore while the process and outcomes might be unsatisfactory on balance, the prospects for the future are quite positive. This review, however, addresses only the past.

Multiple objectives and the inherent inability to always link outcomes to controllable (i.e. endogenous) factors make it difficult to assess privatization on a single dimension. The starting point and the external environment in countries vary substantially making cross-country comparisons interesting but not analytically robust. In addition, the perspective of the government, the investor, the general public and the consumer are never quite the same. Table 1. provides a summary assessment of the privatization in the power sector. This assessment may come out a being rather harsh and uncomplimentary of the privatization overall. This is not the intention. This assessment uses many criteria which are based on typical privatization benefits sought in an environment where the government may have the credible alternative of not having to privatize. However, given that the privatization occurred in a environment of extreme non-payment by suppliers, non-cooperation by important sellers of electricity (i.e. Russia

and Kyrgyzstan), and the imminent collapse of the system in several parts of the country, one may question whether the privatization actually breathed a new lease of life into the power sector. The answer is probably yes — given that the government had no credible means available to guarantee suppliers and state enterprise employees the payment or wages, respectively. The introduction of the private sector indeed allowed the sector to be pieced-back together, and longer range improvements to be considered in a stable environment. Given such a perspective the privatization was not an alternative, but a necessity.

Table 1.

Privatization Indicators	Grade	Rationale
Results:		
1. Raising revenue for the public exchequer	Poor	Proceeds from the privatization were not substantial -- less than US $ 100 million.
2. Reduction in government borrowing and public liabilities	Moderate	Build-up of future liabilities was restrained -- government took on past liabilities.
3. Efficiency gains from commercial incentives	Good	Most indicators of sector performance have improved where the private sector was brought in.
4. Efficiency gains from competition and market discipline	Poor	Structure implemented was not open to competition.
5. Broadening/boosting domestic capital markets	Poor	Privatization transactions were all based on foreign strategic private investment.
Process:		
1. Level of transparency in privatization process	Poor	No public information disclosure, either during or after the process.
2. Level of competition between potential investors	Poor	There was no competitive evaluation of bids based on clearly defined criteria.
Recommended Future Actions		
1. Define the structure of the wholesale power market and implement necessary market rules		
2. Develop and implement a stable regulatory regime that is sensitive to investor needs and protects consumer interest		

Source: World Bank Staff

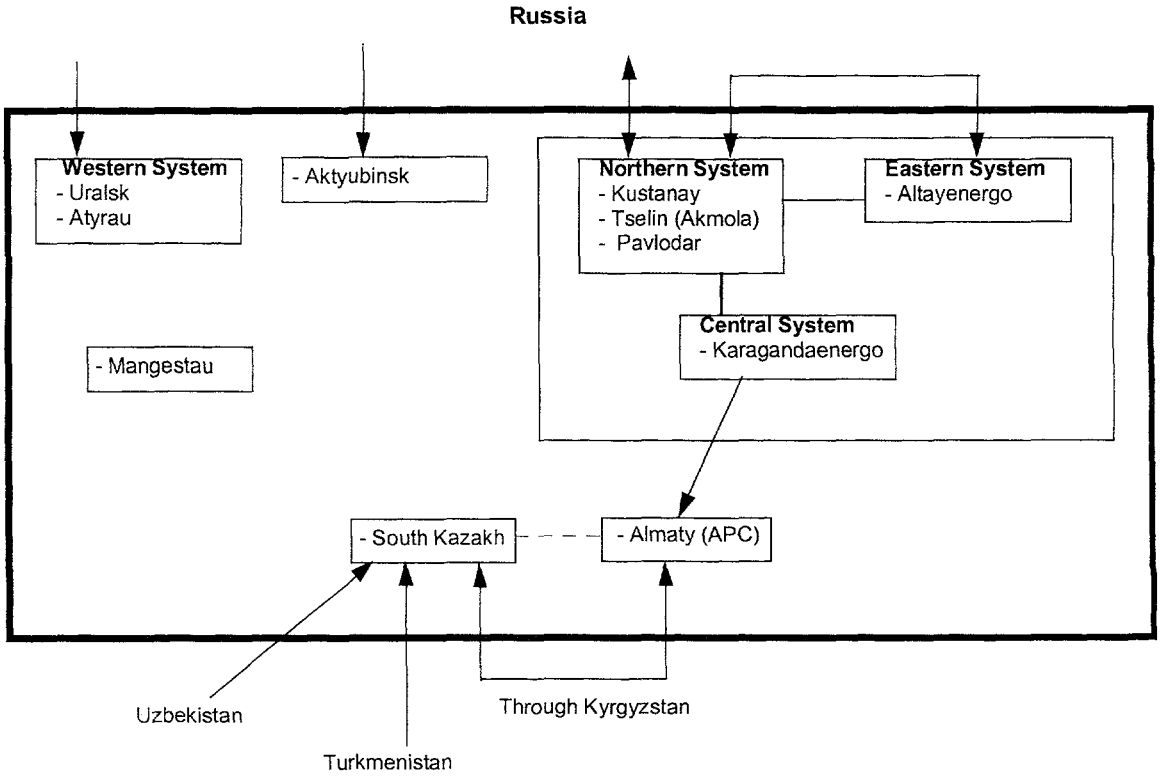
Another problem with a summary scorecard as presented above it that is does not do justice to the potential for future competition in the Kazakh power sector. The mistakes made have been well understood. A competitive bulk supply market for electricity is being actively considered. The introduction of private owners in the generation and distribution segments has paved the way for competition amongst generators for the wholesale supply to distributors. Although these market rules and associated market infrastructure are not as yet in place, the potential and willingness to do so clearly exist. Would this potential have existed absent the privatization? Probably not given the unitary State ownership of the sector and the integrated sector structure. Hence, we may conclude that while the privatization has had problems in its results to date and the process undertaken, it has certainly laid a foundation for future market deregulation and introduction of competitive mechanisms in the sector.

An Overview of the Kazakh Power Sector

Kazakhstan covers an area larger than all of Western Europe. Unlike power systems in most countries, the system in Kazakhstan has not been designed and constructed with Kazakhstan's geographical boundaries in mind. The system was carved out of a much larger Soviet system, to conform to the political boundaries of the newly formed Kazakh Republic. As a consequence, the size and location of generation plant, as well as the extent and capacity of transmission connections is far from optimal. In effect, Kazakhstan began its privatization and reform process with a number of weakly interconnected and isolated systems.

- the Northern Kazakhstan grid has plants which were originally installed to supply loads in Russia. Northern Kazakhstan exports power to Russia, in addition to importing power from Russia in certain regions. The Northern Kazakh grid has fairly strong connections to Eastern Kazakhstan (i.e. Almaty). Although the Northern Grid could supply more power to the South the transmission interconnection is constrained.
- the Southern Kazakhstan grid is heavily dependent on power imports from Turkmenistan, Kyrgyzstan, Uzbekistan and Tajikistan. While this dependence is not necessarily undesirable there are issues of system stability and reserve considerations which become important in the context of a transition to a power market. With political posturing taking precedence over integrated system planning and operation, Southern Kazakhstan remains subject to supply shortfalls.
- Western Kazakhstan has two isolated systems that have no connection to the other grids in Kazakhstan — except a connection through Uzbekistan in one case. These two systems are large net importers from Russia.

Figure 1. Systems and their Interconnections in Kazakhstan



Source: Kazakhstan Electricity Grid Operating Company

Administratively the system organized on two levels — a national system and multiple regional systems.

- The Regional Level: Originally based on the administrative boundaries at the Oblast level, Kazakhstan has 10 regional systems. Physically, these regional systems consist of power generation plants, transmission and distribution networks. Each region has a control center (i.e. dispatch center) that undertakes most of the network operating functions with the region and also dispatches the smaller power plants which currently tend to exclusively service load with the region. Many of the smaller power plants are combined-heat and power (TIP) facilities, that have minimal ability to respond to changes in electrical load. As a consequence the task of responding to changes in load and maintaining system stability is done by the national system.
- The National Level: Physically comprises the high voltage (i.e. 220 kV and above) transmission network that link the different regions and the major generating stations that have the capability to stabilize the system and meet inter-regional load fluctuations. These large plants, termed GREASE -- State Regional Electric Stations,

are dispatched by the national load dispatch center. The national load dispatch center also manages the power interchange between regions, as well as the international trade.

Privatization Drivers

In most countries where privatization has actually been undertaken there have been two factors that have had to come together — a strong political/economic imperative and personalities/individuals who are able and willing to steer the process through inertia and opposition. Kazakhstan was no exception. Why the privatization occurred, can simply be distilled to a combination of crippling budget deficits with the possibility of system collapse, and an extremely determined Minister of Energy who believed that the only way to stop the power sector from further adding to the deficits was to get them off the Government's books. The ultimate decision was, however, driven more by the fear of an imminent system collapse.

The fear of system collapse: By 1996, the level of retail non-payments was reaching a level that many parts of the electricity supply chain started showing the fault lines of imminent collapse.

- Important suppliers at different parts of the supply chain began to cease deliveries. This included: (a) neighboring electricity suppliers in Russia and Kyrgzstan; and (b) coal suppliers to thermal plants who could no longer pay the miners unless the electricity sector was able to pay for its coal and also make good on past deliveries.
- Plant maintenance had become virtually non-existent and even essential maintenance was being ignored. Plant availabilities were dropping and in many instances plants had to be taken completely off-line. For example, only three out a total eight 500 MW units in Ekibastuz GRES 1 were available and that to at a fraction of their nameplate capacity.
- Employees responsible for running the system were not being paid, and although there are no documented instances of problems at the enterprise level, the lack of any employee opposition to privatization indicates the prevailing level of dissatisfaction with government ownership.

It was becoming evident that a options available to the government were running out, and privatization offered the prospect of rescuing the system from total collapse.

Budget deficits: By late 1995, the rate at which state-enterprises were adding to the budget deficits and bankrupting the Government greatly exceeded any incremental fiscal revenues made available by tax reforms and restraints on government spending. Receivables were mounting as there was a huge problem with non-payments for electricity and non-collections of tax by the government. Payables were also increasing which in turn imposed a social strain on the system, particularly with back-pay and pension arrears. The back-pay and pension arrears in end-1995 were in excess of 1,350 million US$, or about 10% of GDP. Collection levels from power consumers were abysmal averaging less that 50%, of which less than 20% was in cash. The budget was in

effect hemorrhaging, and it was felt that the sooner the assets could be transferred to private ownership, the sooner the fiscal drain could be contained.

The Evolution of Ownership and Governance

Before July 1995, the structure of the power sector in Kazakhstan was very simple — all the sector assets were owned by Kazakhenergo, a state-owned entity. Kazakhenergo comprised a high voltage network enterprise, ten regional energos, a dispatch center, and miscellaneous design and construction enterprises. The regional energos owned the power stations, district heat networks, and all of the electric networks except for that portion of the HV network which was used primarily for interconnecting the different regional systems.

While Kazakhenergo was in theory entrusted with power sector assets by the State Property Committee of the Ministry of Finance, the ownership/oversight function were in practice conducted by the Ministry of Energy. The Ministry of Energy was also responsible for key regulatory functions, such as, the approval of investment plans and making tariff determinations for power plants.

The process of privatizing the power sector began in early 1996, with the adoption of a series of Resolutions that paved the way forward by facilitating the necessary asset separation and corporatization process. These Resolutions may thus be seen as instruments that served to restructure the sector to achieve the privatization objective, rather than a well considered re-organization exercise aimed at meeting other efficiency or competition inducing objectives.

Resolution 1033, adopted in early 1996, created a new organization called National Energy System (NES) Kazakhenergo — principally a high voltage network company with a few major generating stations which were formed as independent companies. These independent generation companies were: Yermakovskaya (thermal); Kapchagayskaya (hydro); Ekisbastuz 1; and Ekibastuz 2.

Resolution 663, adopted subsequently on May 30, 1996, provided for full separation of all generation assets from NES Kazakhenergo. Resolution 663 also took various CHP plants and boiler houses away from regional energos and transferred these assets to "communal ownership" (i.e. city and local governments). The transfer of CHP plants and district-heat related assets may be viewed as an restructuring exercise aimed at stripping unprofitable heating assets from power supply assets which although not profitable, had potentially better prospects to be profitable.

Resolution 499, adopted on July 16, 1996, *On Approval of the Power Industry Facilities Corporatization Plan for 1996*, provided for the corporatization of the state-owned entities prior to privatization. This Resolution allowed the formation of the generating stations and regional energos as independent joint stock companies (JSC).

Most of the privatizations were completed in the period from early 1996 to mid-1997. The State Property Committee was the party transferring the ownership, and hence signed the asset sales agreements. NES Kazakhenergo was the counterpart for the power purchase agreements with large generators, and the regional energos JSCs with the smaller plants. The Ministry of Finance took on most of the past liabilities of the

generating assets and the regional energos that were privatized i.e. debt, back-wages and unpaid pension liabilities. No general guidelines were established to limit the liabilities transferred from the generation companies and regional energo to NES Kazakhenergo. Whether the government or the private investor took on the liabilities seems to have been determined by the relative negotiating power of each party.

In July 1997, the Government took another important decision, which was to spin-off all the high voltage network assets, that were owned by NES Kazakhenergo into a new state-owned joint stock corporation. This was done through, Decree 1210 "On Urgent Measures to Facilitate Activities of the Joint Stock Company 'KEGOC'". The new corporation was named the Kazakhstan Electricity Grid Operating Company (KEGOC). KEGOC was granted management control of the remaining generation assets by the State Property Committee. The largest generation station managed by KEGOC is the Ekibastuz GRES-2 with an installed capacity of 2,100 MW. KEGOC was designated to take on the power purchase contracts signed by Kazakhenergo with the privatized generators. Some investors were reportedly unhappy with this change, as they felt that the implicit government credit-guarantee for payment was being diluted. KEGOC was later also given the management control of the remaining state-owned regional energos.

The Ministry of Energy, Industry and Trade continues to supervise all enterprises in the power sector, both public and private. Although the degree to which the Ministry can intervene in the operations and management of the state-owned enterprises appears to have been curtailed by the introduction of management contracts with the State Property Committee, the contracts appear to be fairly imprecise leaving the Ministry with substantial discretionary powers. The Ministry also continues to exercise a major policy role concerning how the future privatization of the sector will be conducted.

Regulation in the Power Sector

The main price-setting body and de-facto regulatory agency for the electricity companies in Kazakhstan is the Anti-monopoly Committee (AMC). The AMC also sets maximum tariffs for natural monopolies in gas, telecommunications, railroads, water and sewerage, airports, and air navigation. The AMC has a central office in the capital city that regulates the national transmission company and wholesale prices from large power stations, and local offices that regulate the local generation and distribution companies.

In early 1998, the AMC is under the supervision of the Ministry of Energy, Industry, and Trade. Recently, it has been made a free-standing organization reporting directly to the Prime Minister. The AMC is not independent of the Government, and tariff-setting appears to be politically influenced. The supervising Ministry appears to have considerable control over the national office, and the Akims (i.e. the executive arm of the local governments) appear to have a similar influence over the local offices of the AMC.

To have their tariffs increased, regulated companies, whether public or private, must make a submission requesting a tariff increase to the AMC, which decides whether or not to grant an increase. Companies can request a tariff increase each quarter, but not more frequently. In practice, tariffs usually change less frequently. The AMC sets actual tariff increases, rather than setting a formula that provides automatically for tariff

increases, so companies must request tariff increases even in response to objectively measurable increases in costs that are beyond their control.

The AMC does not play the same role in technical (safety and quality) regulations. Although it has some responsibility for protecting customers from poor service quality, other agencies such as the Ministry of Energy, Industry, and Trade and the Center for Standardization and Metrology play the key roles in this area.

Generation. Although the AMC sets maximum prices for power sold in the wholesale market by generators, actual prices are now below the regulated level and are determined by negotiated contracts in the wholesale power market.

Transmission. Power transmission is undertaken by the KEGOC, and transmission tariffs are set by the AMC in the process outlined above. At present, the transmission tariffs include both a fixed per kWh fee and a fee per kWh per km of distance between the contracting generator and the contracting purchaser.

Distribution. Distribution prices for most companies are regulated by the AMC in the way set out above. In Almaty, where the LDC has been privatized to the Tractabel company, Almaty Power Consolidated, the procedures for regulating depend both on the AMC law and on the privatization agreement. As with the Intergas concession, we understand, for example, that the Concessionaire can ask the Government to appoint an independent expert to settle disputes about tariff levels.[31]

Supply. Customers with a demand of 5 MW or more can in principle choose their supplier and negotiate the price. In practice, we understand that customers must also have a connection to KEGOC's transmission system in order to have a choice of supplier. The price of power sold to customers with choice is effectively unregulated. Customers taking less than 5 MW must buy from their local distribution company. The AMC lets the distribution company pass on the cost of power they have purchased from generators.

Privatization Methods

The Privatization methods used in the Kazakh power sector have one common characteristic — they have all been private equity transactions involving foreign strategic investors. Neither public equity offerings, either domestic or foreign, nor any domestic private equity transactions have been possible as: (a) the assets/entities being privatized did not represent entities that could meet the minimum financial disclosure standards nor management and income producing capability desired of publicly listed corporations; (b) there was no domestic public equity market; and (c). domestic investors lacked the financial capacity to make the necessary commitments. Therefore, given the Government's objective to bring in private investment and minimize the continued drain on the public budget, the only viable option was to seek foreign strategic investment.

Two privatization methods have dominated the transactions in the Kazakh power sector. The first method is an upfront asset transfer with performance agreement. Under

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[31] We are not aware of what happens in other, newly privatized regional distribution companies, such as those of Kostenau and Karagandy.

this privatization method, the asset transfer is conditional on new capitalization and investment by the investor. The second method is a concession agreement with the investor responsible for specific performance/investment obligations. A variant of the concession agreement is the concession agreement with equity option, wherein the operators are conditionally offered asset ownership if they can meet certain performance standards by the end of the concession period. Both privatization methods seem to incorporate some form of a performance agreement which defines the obligations of both the Government and the Investor.

Asset Transfer with Performance Agreement

This method has typically been used for the divestiture of thermal generation assets. The investor has paid the government a mutually agreed amount for the assets, and both the government and investor have defined obligations. For the asset transfer there are usually two asset transfer/sales agreements. The first is with the local government (i.e. Oblast or Municipality) for the land on which the generation asset stands. This agreement is signed with the local property committee. The second is for the generating asset itself, with the seller being he State Property Committee. For example, AES Silkroad the purchaser of Ekibastuz 1, reportedly paid US$ 11 million to the Ekibastuz Oblast for the land on which the power plant stands, and a further US$ 1.5 million to the State Property Committee for the generation asset.

The asset transfer agreements for the generating assets have been used to define the liabilities that the asset transfer is based on. In general, the Government has taken on all accumulated liabilities, such as back-wages, pension obligation, etc. The investor agrees to purchase the asset with all remaining liabilities and obligations, and pay an upfront amount for the asset. The basis on which these up-front payments for the generating asset were agreed remains completely opaque. Presumably, these values represent some agreement on the present market value to the investor. The Government seems to have benchmarked these sales prices against the value of being able to off-load the future stream of liabilities. The asset sales prices obtained have in all instances been very low. Exact sales numbers have all remained confidential, the numbers discussed in interviews indicate that in no instance were amounts in excess of 5 million dollars paid for any asset — except for the land which seems to have been an entirely separate transaction with the local governments.

For the power sales and performance of each privatized generating asset, an agreement was signed with NES Kazakhenergo or the Regionalenergo. Large stations which are considered to be of regional importance (i.e. GRES's) signed sales/performance agreements with NES Kazakhenergo and the smaller thermal units signed agreements with regionalenergos. In most cases, specific power prices have been agreed on and specified in the contracts. Some investors have noted that these agreements provide for a gross profit margin of up to 25%. Whether these margins are guaranteed remains unclear. Annex 1, list of generation assets and their ownership.

Concession Agreements

Concession agreements have been used to bring in private investment in hydro electric facilities and power and gas distribution. The distribution franchises and hydro

generation assets have been offered to private investors under long-term concession agreements — generally around 20-35 years.

A number of distribution franchises have been given out under the concession method. The most well-known of them is the concession for Almatyenergo given to Tractebel. The distribution concession along with other generation assets and the district heat plants purchased by Tractebel are collectively called Almaty Power Consolidated (APC). Other distribution concessions have been given out for Altay, Karaganda, Pavlodar, Kokshetau, and Geshkazhgan. It is understood that these concessions have been given to consortia of local Kazakh investors and foreign investors. For distribution franchises, the private investor/operator pays an upfront fee which gives him the rights and obligation to manage distribution network assets and deliver the energy service.

Smaller distribution franchise areas operated by cooperatives, are being gradually offered to local operators to manage for short time periods (five years or less), with an option for longer-term concessions. Almaty Power Consolidated for example is actively trying to find local investors to take on local franchise operations below 35 kV.

In the case of hydro-electric plants, the investor is given a long-term concession to operate the asset and is paid a fixed price for each unit of delivered electricity. For example, AES Silkroad has been given the following hydro stations for a 35 year concession: (a) Ust-Kamenogorsk (332 MW); and (b) Shulbinsk (702 MW).

The Privatization Process

The privatization process adopted in Kazakhstan remains intriguing and will continue to remain so, as there is virtually no information available on how the assets were prepared for privatization, how investors were selected and how the sales were negotiated and awarded. The government agencies that managed the privatization of the power sector are: (a) the Ministry of Finance through the State Property Committee and the State Privatization Committee; and (b) the Ministry of Energy, Industry and Trade. The Anti-Monopolies Committee seems to have been rather detached from the process.

The State Privatization Committee is essentially a small group of individuals who handled the tendering process, evaluation and the negotiations for the privatization transaction. The State Property Committee was the entity that signed the final agreements on behalf of the State. There are local government Property Committees, who own the land and some of the distribution assets, who are participate in transactions. After the first phase of privatizations in 1996 and 1997, it was found that the distinction between the two State committees ceased to be useful as their mandates overlapped. In 1998, the two committees were merged to form the State Property Committee and the State Privatization Committee. The regional Property Committees are continue as separate entities.

The work-load to prepare all the necessary documentation and manage the entire transaction process was shared by the different agencies based on their comparative advantage. Given their knowledge of the sector and their access to staff and information for the specific assets in question, the Ministry of Energy was responsible for preparing the draft tender documents. The draft tender documents were reviewed by the Ministry

of Finance, Ministry of Justice and Ministry of Environment. Each of them provided their inputs, and the task of finalizing the tender documents was undertaken by the State Privatization Committee. The bidding process, evaluation and negotiations were conducted by the State Privatization Committee and the State Property Committee. It is unclear who actually made the final decisions.

The process lacked any formal definition and there were no formal guidelines. While the privatization was really done in an "innovate as you proceed" fashion, it raises the question of whether some basic principles could not have been established and applied consistently. Discussion indicate that all the concerned committees/individuals within the government were aware of what these principles could have been and how a transparent process could have been structured and implemented. This is evident from the effort made to structure tender documents and actually create the impression that there were formal bid evaluations conducted. Whether this was done deliberately or was an outcome of the difficult fiscal circumstances under which the transactions were undertaken may never be known.

The process has lacked:

- advertising and formal pre-qualification process
- well prepared tender documents which would give serious investors adequate information to make an assessment of the value of the asset, and other regulatory conditions
- adequate time for bidders to prepare responsive bids
- clear evaluation criteria which would give a potential investor/bidder the comfort that each bid would be considered on its merits
- any documentation that would indicate that a competitive evaluation was conducted

The Anti-Monopoly Committee does not seem to have been present at the time the contracts with the investors were negotiated. Since these contracts represent a "regulatory compact" with the government, which the AMC now feels is unreasonably generous, there have been many disputes with the private investors. This is another undesirable outcome of the privatization process. This could have been avoided if the AMC was involved in establishing some well-considered regulatory guidelines at the outset. However, given the government's objective to complete the privatization quickly it seems unlikely that any such guidelines could have been developed to meet the government's schedule.

Some of the second stage privatizations, specifically, the Altay hydro-stations concessions and thermal plants sold to AES seem to have had an element of quid pro quo — as the government was unable to meet its purchase obligations from the Ekibastuz 1 power station, AES seems to have been in a strong negotiating position to drive a fairly attractive bargain for the hydro concessions and the thermal stations.

In 1997, the government also tried to privatize both the national transmission company and the 18 regional distribution companies but with little success. The government negotiated with two international companies, National Grid (UK) and ABB

(Swedish/Swiss) to buy the national transmission grid, but the negotiations were not successful.

Investor Motives

Many of the private investors who purchased sector assets were Western companies. These included: AES of the US; Samsung of Korea; Japan Chrome; Ispat the World's largest steel multinational; Independent Power Company of the UK; Tractebel from Belgium; etc. Some of these were established electric power companies (e.g. AES) that wanted to expand into Kazakhstan. Others were manufacturing or mining companies already located in Kazakhstan (e.g. Japan Chrome, Samsung, and Ispat) that wanted to assure themselves a reliable source of power.

To outsiders, it is somewhat of a mystery as to how the government was able to privatize such a large part of its generation assets in 1996. It would seem that from an investor's point of view Kazakhstan was high risk. In particular, there was not an independent regulatory system that could assure investors would be able to charge prices adequate to give them a reasonable return on their investment. The politicians and regulatory authorities were reluctant to raise prices to full cost recovery levels and a large percentage of customers including government ministries simply did not pay even these low prices (non payment was as high as 70% in some regions)..

Because the details of the actual privatization transactions are confidential, we can not be certain why investors were willing to accept these risks but there are a number of possible explanations. One explanation is that some investors bought generation assets primarily to supply their own industrial or mining activities. Thus the regulatory regime was of little importance to their decision.

Another explanation is that investors did not pay high prices for generation assets thus reducing their risk. We have heard that large generation plants were sold for just a few million dollars. These investors often did commit to make large future investments. This, however, gave investors some time to evaluate the legal, political, and regulatory environment before making large investments. If the environment turned out to be worse that expected and risks higher, they could delay making investments or not make them at all arguing that circumstances had changed.

A third explanation is that some investors had contracts with the government in which the government either agreed to purchase their power or allowed them to charge certain prices for the sale of the power. In effect, the sales contracts became a substitute for regulation. These contracts, however, may not have provided investors with as much protection as they had expected. In at least one case, the purchaser of a generation company negotiated an agreement with the government in which the former state-owned transmission company agreed to buy the power produced by the generation company. The transmission company, however, was unable to fulfill the terms of the agreement because it was not collecting adequate revenue from the distribution companies. The private generation company was forced to find other buyers for its power at substantially lower prices. In another case, the owner of the Almaty distribution company has argued

that the government has not met its commitments to allow the company to charge prices high enough to cover the full cost of supplying power.

Analyzing Privatization Outcomes

A decision to privatize is usually made with the intention of achieving a complex balance of short-term versus long-term, and economic versus political benefits. When the overarching imperative is to rein in widening fiscal deficits, the long-term may be too far in the future to be important. The Government's evaluation framework evidently used (directly or indirectly) a very high discount rate in Kazakhstan.

To assess the privatization outcomes we have picked typical economic benefits sought by governments that embark on large scale privatizations, and evaluated the extent to which they were achieved in practice:

- Raise privatization revenues and reduce public sector borrowing
- Improve efficiency by instilling better commercial incentives
- Improve efficiency by introducing competition and market discipline
- Reduce government involvement in the power sector
- Develop and deepen domestic capital markets

Raise privatization revenues and reduce public sector borrowing

The enterprises sold to the private sector did not raise any significant amount of additional revenues for the Government. No transaction raised more than about 4 to 5 million dollars in upfront cash payment. Tractebel is supposed to have paid around 4 million US $ for the distribution concession, over 1,000 MW of generation assets, and the district heating assets. AES reports to having paid about US $ 1.5 million for 4,000 MW of generation assets. In some cases the Oblasts (i.e. local governments) got more for the land occupied by the asset. As for a reduction in public sector borrowing, the privatization has certainly reduced additional liabilities from being incurred by the Government. If the counterfactual assumption is that the government would have continued incurring additional debt/liabilities to pay wages, cover the operating and maintenance cost, and finance asset rehabilitation, the implicit reduction in government borrowing is quite significant.

Privatization revenues were minimal because:

- the physical assets were in a poor state-of-repair and required significant investments to rehabilitate and upgrade them to squeeze a reasonable working life from them. In most instances, investors agreed to invest specific amounts of funds over a period of time to upgrade the physical assets. AES claims they have spent around US$ 100-120 million to rehabilitate the MW Ekibastuz 1 power station, to bring raise its working/available capacity from 350 MW to 1,760 MW — although the nominal nameplate capacity for the station is 4,000 MW.
- the investors took on the incumbent workforces, which represented a high level of overstaffing. The government maintained that one of its key objectives was to

maintain employment in the different generation stations and avoid the social problems that would arise from redundancies.

- The uncertainty in the future revenue streams was high. Although contracts were signed which provided price and/or volume guarantees, the risk of actually meeting these levels seems to have been factored into the prices paid. For example, Almaty Power Consolidated (APC) was guaranteed a 25% gross profit margin, but claims that they have not been able to achieve these returns in practice.

Improve efficiency by instilling better commercial incentives

Efficiency in the operation and maintenance of privatized power sector generating plants and distribution franchises has definitely improved significantly. For example, the availability of the generating plants have all gone up, and the level of service in the franchise area of APC has improved. The most significant improvement the reduction in the level of non-payments. Non-payments in the APC franchise area has been reduced from 35% in 1996 to less than 10% in 1997. Perhaps more importantly, most of the payments are now being received in cash, rather than barter or "offset" transactions (barter transactions have always been the least desirable form of payment, cash paying consumers are normally given a discount of up to about 30%).

Even in the generation sector, there is evidence that the prices have dropped below contract prices originally established. For example, AES Silkroad, contracted to sell power to Kazakhenergo for 2.8 cents per kWh, now sells power for about 1.1 cents/kWh — this is the cash only price.

Almaty Power Consolidated (Tractebel) has recently taken over the entire billing and collection function from the district administration in Almaty. These functions were not a part of the original sales and purchase contract signed when Almatyenergo was privatized. However, APC found that there were costs in the billing and collection segment that could be reduced and thereby increase the margin in the whole distribution chain. These cost reductions are clearly a result of the cost-minimization focus of private operators.

Prices to final consumers have not come down, but of course one cannot expect prices that did not cover costs to come down.

Improve efficiency by introducing competition and market discipline

Privatization in the Kazakh power sector did not occur with any implicit and/or explicit strategy to introduce competition in the potentially competitive segments of the power industry. In the context and circumstances under which the power sector was privatized it may not be fair to assess whether the level of competition in the sector has indeed increased or not, and whether there have been efficiency gains from competition. As the power sector was effectively operating with extremely poor cash collections, the introduction of competition may have increased the investors perception of risk to a level that may not have made the transactions possible. While this assessment of risk may not have been important for investors who purchased generating plant to service their own captive loads (i.e. investors in the metals and mining industries), this would most likely

have been important for investors who were entering the market to make commercial profits solely from the electricity business.

The relevant question would be whether the privatization achieved a structure that would facilitate the introduction of competition and whether the oversight mechanisms in place controlled undue market power? In the case of generation privatization, it appears that the market structure achieved would allow for the introduction of competition for wholesale supply. With a formal market wherein generators compete for the right to supply, there are likely to be generating plant that may be driven completely out of business. Given that many of the generating plant are indeed very old and depreciated, this may not be a problem from a financial perspective, although there are likely to be social considerations with the prospect of increased redundancies.

The industry structure created by the restructuring and privatization of the sector is indeed conducive to the introduction of competition in the wholesale (i.e. bulk supply) electricity market. There is already evidence of some competition between generators to sell to creditworthy distribution entities. The privatization has introduced multiple private investors in the generation and distribution sector, creating diverse ownership interests has been instituted by in lieu of a unitary state owner. This is the foundation for competition in the sector. The need remains for a decision on the competitive market structure and a clear set of rules to govern its operation. Although there has been functional unbundling of the generation, transmission and distribution segments of the industry, further work remains to be done in establishing arms-length dispatch and system operators to minimize potentially anti-competitive behavior. Finally, there is a need for substantial physical upgrading of the transmission system in order to minimize the impact of regional concentration for monopoly power and to create a market that truly has multiple sellers and buyers. In summary, it is clear that the privatization of the sector has created some of the fundamental and necessary conditions for competition in the power sector.

The structure under which the distribution franchises were privatized do raise concerns for future competition in the sector. For example, Almaty Power Consolidated is a holding company that comprises:

- Almaty Energy Production Company (A Generation Company with almost 1,100 MW of generating plant)
- Almaty Electrical Distribution Company (A Distribution Company for the Almaty Oblast)
- Almaty Heat Distribution Company
- Almaty Collection Company

Given that APC owns both distribution and generation, it is effectively operating an integrated power monopoly in Almaty Oblast. There is evidence that APC is self-sufficient and does not need to import power to meet the load in its franchise area. This could potentially lead to anti-competitive behavior by APC. More specifically, APC may not have any incentive to purchase the cheapest source of generation to supply its franchise consumers, provided it is able to pass-through the costs of generation. At this

stage, this is may not be an issue, as APC is working hard to collect its bills, upgrade the network and improve the overall quality of supply. Safeguards to obviate anti-competitive behavior should have been put in place at the time of privatization. The absence of such initial safeguards will presumably skew negotiating leverage in favor of APC when generator competition is to be implemented.

Government agencies seem to be aware of the problem inherent in creating integrated regional monopolies, and were careful not to give the concession for Altayenergo (the regional distributor) to AES when it was negotiating to purchase generators in the Altai region.

Reducing government involvement in the sector

Privatization in the power sector has certainly reduced the extent/depth of government involvement in the power sector. The benefits of this reduction stem from the reduction in public sector liabilities that kept accruing on the government's books with continued state-ownership. Despite these changes, however the government has remained involved in each aspect of sector operation. The Government continues to have a role in generation, transmission and distribution, and the methods by which the government exercises oversight of the power sector has not changed either.

Domestic Capital Market Development

None of the privatization transactions have made any impact on the development of the local capital markets. Virtually all of them involved private foreign strategic investors. A few distribution concessions have been given to local investors. Some countries have employed the privatizations of their energy corporations to boost the development of local public equity markets, by listing at least a part of the equity domestically and allowing a foreign strategic investor to own a large share and retain management control. Although the investment capacity of local small investor is probably limited, it is not inconceivable that some of the equity could have been offered domestically. The government is indeed considering the domestic public listings of for some of the assets in the oil and gas sector. In summary, it probably was not possible to consider domestic equity involvement in the early transactions given the time frame the government had established. However, with adequate preparation future assets may be considered for domestic listing in addition to strategic investor involvement. The political and regulatory benefits of doing so would also be significant.

Investor & Enterprise Concerns

This final section summarizes some of the concerns expressed by the investors and operating enterprises in the power sector. Although some of these might seem to be narrow and parochial in their focus, they represent issues that the government would need to addressed satisfactorily in the context of future privatizations. Doing so would probably have a positive impact on the level of privatization revenues that could be raised from asset sales, and also serve to increase the overall benefits to all stakeholders and ultimately the consumers.

Increase in the Contractual Credit Risk

A few investors feel that KEGOC's role in managing remaining state-owned generation and distribution enterprises in the power sector increases their credit risk under certain events. Some investors even feel that the transfer of State liabilities to KEGOC could lead to a renegotiation of contract terms in the event that KEGOC is unable to meet its obligations. Essentially, most investors would be more comfortable if the government explicitly stood behind the contracts. While this desire may be not be completely justified, there is a genuine investor concern that the financial health of the sector, specifically KEGOC, does not provide adequate credit security. The distinction investors make between Kazakhenergo (i.e. the original signatory of off-take agreements) which was also state owned and KEGOC, is that KEGOC is a joint stock company with limited liability and may not be able to make the investors whole in the event of a payment default or bankruptcy. Future privatizations are likely to be adversely influenced if this perception of KEGOC's financial inadequacy continues.

Retail Tariff Level below Cost

Average tariff levels are significantly below a financially viable long-run production cost level. While generation and transmission tariffs cover short-term variable costs, the distribution margin seems to be well below cost. The private sector distribution companies keep reiterating their inability to make significant investments in distribution without fundamental changes in the tariff levels. The principal problem seems to be that there is considerable disagreement between the Anti-Monopolies Commission and the distributors on costs that can be expensed and depreciation that can be claimed. There is also the political dimension that seems to be working against an immediate tariff increase to solve this problem. A transition strategy needs to be defined.

Billing & Collection Independent from Distribution Companies

The billing and collection entities in the power sector are functionally separated from the distribution companies. The billing and collection is done the local utility billing agency, the *energobeist* or *KSK*, usually government owned or community managed respectively. These issue a combined utility bill for electricity, gas, heating, water, and other public services. The customer pays the bill at the denominated payment agency — the savings Bank, the KSK, community cooperative, etc. who in turn make the necessary cash transfers to the regionalenergo and individual supply entities. This separation of billing and collection from the distribution company has diluted incentives for efficient and accurate collections. There is no incentive for the billing and collection agency to accurately read the meter. In some cases there is also the problem that the cash due, even if collected, does not flow back to the regionalenergo immediately. Although the function can remain separate, it is necessary to ensure that the incentives in the system are rationalized to improve collection.

Economic Scale of Distribution Franchises/Companies

Kazakhstan's electricity distribution companies are generally small by international standards. In order to make them economically viable and attractive sales targets, it may be necessary to merge selected companies prior to their divestiture, irrespective of

whether they are targeted to foreign or local investors. Economies of scale could be achieved when a company has about one million customers or annual sales of 2,500 to 3,000 GWh electricity. This suggests that there should not be more than seven or eight distribution companies for the whole country. In addition to the mergers, given the poor financial condition of the distribution companies, the Government should be prepared to take measures to reduce/restructure their debts in order to make the companies saleable.

Excessive Protection from Disconnection

Disconnection of non-paying consumers is legally allowed. However, local governments are able to certify specific customers as having a public service obligation and protect them from disconnection in the event of non-payment. The distribution companies, both private and state-owned, have noted that the customers accorded this protection are not always "deserving" (in some local jurisdictions a majority of the consumers have been given this protection). It is imperative that this discretionary power given to local governments be curtailed. The financial health of the entire power sector depends on improving collections and disconnection is the only effective means of getting the payment incentive right. The fundamental problem in the sector continues to be the high level of non-payment for delivered power.

Capital Gains Tax Disincentive for Asset Revaluation:

Asset reevaluations are necessary to: (a) obtain reasonable levels of depreciation allowances to finance asset upgrade/rehabilitation; and (b) develop a viable balance sheet to raise new financing. The tax authorities are imposing a capital gains tax on the asset revaluations, even though this gain is not realized in the cash flow. This provides no incentive for firms to complete comprehensive revaluations. There is a minimum level of asset revaluation that is tax-free, but given that the original book values on these assets was so small at the time of privatization this relief is negligible. In a situation where the power enterprises are either making losses or very small profits, the capital gains tax threatens to drive them deeper into the red. To ensure that enterprises have the incentive to revalue assets and obtain adequate depreciation allowances to make the required investments some form of capital gains tax relief should be considered.

Regulatory Debate on Allowable Expenses

Power enterprises are having a disputes with both the Anti-Monopolies Committee and the tax authorities on the expenses that are allowable. For example, the tax authorities do not allow enterprises to expense legal fees and accounting fees, and the AMC does not allow enterprises to claim certain depreciation expenses. These rules need to be made clear to ensure that they instill incentives for efficiency, as well as provide investors with a reasonable return on there investment. Without clarifying these basic regulatory rules on a fair basis the perception of government arbitrariness will continue.

Direct and Indirect Tax Treatment of Losses and Non-Collection

The tax authorities with the support of the anti-monopolies committee (the de facto regulator) are requiring the network enterprises (including KEGOC) to: (a) Pay VAT (at 20%) on technical network losses above a normative maximum of 12-14%, as well as

non-technical losses (i.e. theft); (b) pay VAT and income tax on non-collections (a direct outcome of the move to accrual based accounting); and, (c). to include technical losses (above the normative maximum) and non-technical losses as a cost of operation with the resultant increase in corporate income tax. While some performance targets and service standards are appropriate from the regulatory perspective, there is a question whether the above provisions are indeed fair. Both private and public operators in the sector oppose them and consider them arbitrary, and not in line with the reality in the sector. This is another area where some regulatory stability and good sense is required to ensure that the viability remains an achievable sector objective. Given the restraints on the enterprises to: (a) claim adequate depreciation; (b) disconnect non-paying customers; and (c) earn adequate surpluses and/or raise external capital for investment — it does seem that the tax authorities and the AMC are being unreasonable.

Incentives to Reduce Network Losses and Recover Investment

In the existing environment where revenue recovery is constrained by low allowable tariffs, non-payment by customers, and poor enforcement of disconnections, the owners of the distribution network find it difficult to justify investments in upgrading the network. The AMC on the other hand is putting pressure on them to reduce losses, and the tax authorities are forcing them to pay taxes on an allowable level of losses. A process for regulatory review of investments in system rehabilitation is necessary which ensures that these investments are approved, and the costs of which can be recovered from tariffs.

Ownership of generation assets (MW of installed capacity).				
	Generation Company	***Owner or managing company***	***Private***	***State***
1	Almatynskaya TES-1	"Tractebel CA" (Belgium)	145	
2	Almatynskaya TES-2	"Tractebel CA" (Belgium)	510	
3	Almatynskaya TES-3	"Tractebel CA" (Belgium)	173	
4	Kapchagayskaya GES	"Tractebel CA" (Belgium)	384	
5	Almatynsky cascade GES	"Tractebel CA" (Belgium)	47.7	
6	Experimentalnaya GES	Kaz. Research inst. of energy		0.4
7	Tekelyiskaya TES-2	100% state shareholding		24
8	Taldy-Kurganskaya GES	100% state shareholding		3.5
9	Karatalskaya GES	100% state shareholding		10.1
10	UstKamenogorskaya TES	"AES Suntree"	241.5	
11	Leninogorskaya TES	"AES Suntree"	35	
12	Sogrinskaya TES	"AES Suntree"	47	
13	UstKamenogorskaya GES	"AES Suntree"	312	
14	Bukhtarminskaya GES	JSC "Kazzinc"	675	
15	Leninogorsky kaskad GES	"AES Suntree"	12	
16	Zaysanskaya GES	"GESenergo"	2	
17	Semipalatinskaya TES	"AES Suntree"	6	
18	Shulbinskaya GES	"AES Suntree"	702	
19	Aktubinskaya TES	"Inform marketing service" (Ukraine)	73	
20	AKTURBO	JSC "AKTURBO"	97.8	
21	TEP "ALGA"			4
22	Uralskaya TES	JSC "Zhaykteploenergo"	30	
23	Atyrauskaya TES	"ENergoproject" Ltd.	215	
24	ANPZ TES	ANPZ	6	
25	MAEC	100% state shareholding		1347
26	Karagandinskaya GRES-1	JSC "Karbid"	151	
27	Karagandinskaya GRES-2	Sumsung Deutschland (South Korea)	608	
28	Karagandinskaya TES-1	Energo Energy Ltd.	32	
29	Karagandinskaya TES-2	Ispat-Karmet, India	435	

Ownership of generation assets (MW of installed capacity).				
	Generation Company	***Owner or managing company***	***Private***	***State***
30	Karagandinskaya TES-3	Energo Energy Ltd.	440	
31	Bl. station -KMK TES-1	Ispat-Karmet, India	132	
32	Tentekskaya TES			18
33	Balkhashskaya TES	Sumsung Deutschland (South Korea)	125	
34	Zheskazganskaya TES			177
35	Rudnenskaya TES	"Myl" Ltd.	123	
36	Kostanayskaya TES	100% state shareholding		12
37	Arkalykskaya TES	100% state shareholding		6.5
38	Pavlodarskaya TES-1	Whitesman, Ltd. (PAZ manages)	350	
39	Pavlodarskaya TES-2	CCL JIL REFINERI	110	
40	Pavlodarskaya TES-3	CCL JIL REFINERI	440	
41	Aksuyskaya GRES (Ermak)	Japan Chrom, Japan	2100	
42	Ekibaztuzkaya GRES-1	"AES Suntree"	4000	
43	Ekibaztuzkaya GRES-2	JSC "KEGOC"		1000
44	Akmolinskaya TES-1 and 2	100% state shareholding		268
45	CGHK	100% state shareholding		180
46	Petropavlovskaya TES-2	"Roskazenergo", Ltd.	380	
47	Sergeevskaya GES	Ministry of agriculture		2
48	Zhambylskaya TES-4	"Taraz zhylu zharygy"	60	
49	Zhambylskaya GRES	"Energoproject", Ltd.	1230	
50	Shimkentskaya TES-1 and 2			42
51	Shimkentskaya TES-3	Box Plant, Ltd.	160	
52	Kentauskaya TES-5	100% state shareholding		18
53	Chardarynskaya GES (bl. st.)	100% state shareholding		100
54	Kzyl-Ordynskaya TES-6	"Kzyl-Orda", Ltd.	146	
		SUBTOTALS	14,736	3,213
		TOTAL CAPACITY	17,949	
		Percent of Total Capacity	**!E58 Is Not In Table**	**!E58 Is Not In Table**
TES – combined heat and power, GES – hydroelectric, GRES – large thermal				

Gas Industry Privatization

Summary

Kazakhstan has an extensive gas resource base. Most of the proven gas reserves are associated with oil or gas condensate reserves and production of gas has, therefore, largely been limited to associated gas. In the upstream sector gas development will likely remain closely tied to oil development. Market outlets for this gas, however, are relatively limited and unless new outlets are found for the associated gas production, there is a risk that the growth in oil production will be constrained.

Foreign investment interest in oil exploration and development has resulted in considerable private sector involvement in the upstream gas sector. Privatization activities in the downstream gas sector were initiated in 1996. In 1997, a concession agreement covering the gas transmission assets and operations was executed with Tractebel of Belgium. Privatization of the gas distribution companies and of the LPG business has not yet taken place.

A number of lessons were learned from the process of privatizing the gas transmission business:

(a) The process suffered from inadequate terms of reference. This created problems in evaluating the alternative bids and prevented the process from delivering a clear transparent result.

(b) Kazakhstan would likely have benefited from engaging experienced international financial advisors to manage this privatization exercise.

(c) A solid legal and regulatory framework for the gas sector should have been put in place before the downstream privatization effort was initiated.

(d) The relative roles and responsibilities of the Government and of the Concessionaire should have been clearly delineated prior to the privatization effort.

Next steps in the gas privatization process include:

(a) Putting in place a solid legislative and regulatory framework for the gas sector.

(b) Addressing the problem of non payments as a matter of priority.

(c) Proceeding with the privatization of the eight distribution companies. Responsibility for this effort should be assigned to a single agency supported with solid legal and financial advisory services.

(d) Kazakhstan should proceed with the privatization of the LPG business.

Overview of the Gas Sector

Gas Resources

With proven gas reserves of about 2 trillion cubic meters and the potential to produce in excess of 35 billion cubic meters (BCM) annually, Khazakhstan possesses a significant energy asset. To date, however, only limited development of this gas resource base has occurred. Gross production, which has largely been limited to associated gas, peaked at about 8 BCM in 1992, and then declined. In 1996, gross production totaled about 6.6 BCM (including 2.2 BCM consumed in the oil fields). This results in a reserves to production ratio in excess of 300.

In order to exploit this resource base fully, certain challenges have to be overcome:

- The pipeline infrastructure in the country was designed as part of the overall transmission system of the former Soviet Union. As a result, the existing system does not permit Kazakhstan to operate in a self-sufficient fashion (nor would it make economic sense to attempt to do so).
- The bulk of Kazakhstan's gas reserves and production are located in the north western part of the country. (Karachaganak is the largest producer of gas with the potential to produce in excess of 25 BCM per year. Associated gas from Tengiz represents the second largest source of gas production, with the potential to reach 5 BCM per year once the field is in full production). There is only limited domestic demand, however, in this part of the country, and the existing pipeline infrastructure does not permit the supply of gas from the north west to the largest demand areas in the south (some 2,000 kilometers away). As a result, the country is dependent upon gas imports from Turkmenistan, Uzbekistan and Russia to meet its domestic needs.
- Kazakhstan currently lacks an export marketing capability. At present the only access to export markets is through Russia.
- The existing legislative and regulatory framework does little to support the constructive development of the gas sector.

Kazakhstan's significant proved, probable and potential reserves of oil (and other liquid hydrocarbons) have attracted considerable foreign investment interest and the private sector now controls a major portion of both oil and associated gas production. Unless market outlets are found for the associated gas production, however, there is a risk that growth in oil production will be constrained. (As a signatory to the 1992 Rio Convention on climate change, Kazakhstan is committed to the ultimate elimination of gas flaring).

Gas Transportation

Most gas pipeline assets in Kazakhstan are located within two major north-south corridors in the western part of the country. These lines form part of the original unified gas supply system (UGSS) grid of the Soviet Union.

The major gas transit pipelines in Kazakhstan are:

- The Central Asia to Central Europe (CAC) gas export corridor which extends over 820 kilometers with five lines of 1,000 to 1,400 mm diameter and with a total design capacity of 67 BCM/year. The CAC lines connect Turkmenistan, Uzbekistan and Kazakhstan to the Siberian pipeline system, which connects with the European pipeline system at the Slovakian border. At present only two of the five lines are operational.

- The Bukhara to Ural corridor which extends over 630 kilometers, consists of two 1,000 mm diameter pipes with a design capacity of 14 BCM/year. This line connects with the Siberian pipeline system at Chelyabinsk. The pipeline is now used for swap deals with Uzbekistan. Uzbekistan supplies gas to Almaty in the south east and receives gas from Aktyubinsk in the north for export to Samara.

- The "Soyuz" and "Novopokov" lines which run in parallel over 380 kilometers inside Kazakhstan with 1.200 and 1,400 mm pipes and with a design capacity of 62 BCM/year. These lines are connected to the CAC pipeline at Alexandrov.

- The Bukhara – Tashkent – Symkent – Zhambyl – Bishkek – Almaty line which extends over 700 kilometers with 700 to 1,020 mm pipes and with a design capacity of 13 BCM/year. This line allows Kazakhstan to import gas from Uzbekistan and/or Turkmenistan for delivery in the south of the country. (In order to reach Almaty, the gas also has to pass through Kyrgyz).

- The Makat – North Kafkaz line which extends over 370 kilometers with a 1,400 mm pipe and with a design capacity of 26 BCM/year. This line branches out from the CAC gas pipeline to Georgia., Azerbaijan and Armenia via the Russian Caucasus.

- The Karachaganak – Orenburg line which has a capacity of 6 BCM/year is designed to take sour gas from Karachaganak to Orenburg for further processing.

As has been indicated, the existing gas pipeline system does not permit the delivery of gas from Karachaganak and other gas producing fields in the northern and western regions of the country to the population centers in the eastern and southern regions of the country. While Kazakhstan could meet part of its domestic gas needs by reversing the flows of CAC and/or the Bukhara - Ural gas pipelines, the gas would still have to transit Turkmenistan, Uzbekistan and Kyrgyz. Kazakhstan can only become self sufficient, therefore, if it is prepared to construct new gas pipelines.

In 1997, Kazakhstan entered into a 15 year lease/concession agreement (extendable for up to an additional 15 years) for overall management of the gas transmission system with Tractebel of Belgium. Tractebel, which also owns and operates power generation and distribution facilities in Almaty, has established a local company, Intergas, to manage the gas transmission operation.

In addition to the pipeline facilities, Kazakhstan has three gas storage facilities:

- Bazoinski (4 BCM)
- Baltarazk (0.4 BCM)
- Aktyubinsk (0.2 BCM)

These facilities are used only sporadically, mainly to provide for the increased use of gas during the winter months.

Gas Distribution

Domestic gas consumption peaked at 16.2 BCM in 1991. Currently, however, it totals about 8 BCM/year. The gas transportation system delivers gas to only eight of the country's nineteen oblasts. It reaches about half the population

Gas distribution in each oblast is managed by an "Oblagas company". These are joint stock companies in which the government owns a 90% stake. The companies enter into contracts with gas suppliers (domestic producers, external producers – Turkmenistan, Uzbekistan and Russia – and other suppliers such as Tractebel which can sell gas to Oblagas companies or other large consumers) and also enter into an agreement for the transportation of the gas with Intergas.

The Oblagas companies lack commercial focus and their financial situation borders on insolvency. Non payment problems, which are endemic in the energy sector throughout much of the former Soviet Union, have a severe impact on the Oblagas companies. The non payment problem also extends back up the supply chain (the current rate of collections by Intergas, for sales and transmission services, is running at about 30%). The non payment problem at the local distribution level is exacerbated by pricing procedures that, in most cases, result in prices that are insufficient to cover the costs of distribution, maintenance and measures to reduce physical losses and leakage.

LPG supplies which originate from the Kazakh refineries and from Russian imports are managed by Alautransgas.

Measures to Enhance the Investment Climate in the Gas Sector

In order to create a climate that will attract investment (both foreign and domestic) into the gas sector in Kazakhstan, three critical components are required:

(a) There must be a clear and consistent legal and regulatory regime. This is necessary to provide investors the assurance that their investments are fully protected by the laws of Kazakhstan and that the agreements that form the basis for such operations will be upheld by the Kazakhstan courts.

(b) There must be an acceptable fiscal regime in place. Such a regime should be neutral or progressive in nature (i.e. it should primarily be based on profits taxation); it should be consistent with the general tax regime applicable in the country and it should be designed to allow foreign investors appropriate tax treatment in their countries of origin.

(c) Investors require assured non discriminatory access to markets. Coupled with this is the assurance that they can take actions to deal with non payment issues and the assurance to foreign investors that net profits associated with these investments can be repatriated.

The Legal and Regulatory Regime

Kazakhstan does have a Petroleum Law, (which is currently undergoing review) which addresses producing operations in the gas sector. The country does not, however, have a separate Gas Law that would provide a comprehensive legal framework for the gas industry. The Ministry of Energy, Industry and Trade has established a working group to draft such a law, as well as related regulations. The working group includes the local Kazakh law firm Grata and USAID financed consultants, Hagler Bailly.

The Government has unbundled gas production, transmission and distribution. As such, it has taken the key first step towards a fully liberalized and efficiently functioning gas market. While the Petroleum Law provides legal underpinnings for the upstream (i.e. production) sector, no such legal underpinnings exist for the downstream sectors.

Gas legislation for downstream operations should be based on the following principles:

(a) A clear delineation of activities that are carried out competitively (gas import, export, trading and supply to large consumers) and non-competitively (gas transmission, storage, distribution and supply to small consumers).

(b) The provision of access to gas transportation, storage and distribution services on an open non-discriminatory basis with tariffs that are equally applicable to all parties and enable the providers of these services to recover their costs and receive a return on their investments that is commensurate with the investment risk.

(c) The regulation of prices and quality of service in the non-competitive segments of the gas industry that is achieved through licenses issued by an independent regulator.

The establishment of a modern regulatory framework is necessary to promote efficient, environmentally sound and safe operation of the gas industry. This will take two forms:

- Economic regulation will provide the framework and incentives for efficient transmission, distribution and consumption of gas.
- Technical regulation will set standards in relation to health and safety matters and environmental issues.

The purpose of economic regulation is to control the monopoly power of the transmission, distribution and trading companies in an open and transparent way. This regulation needs to strike a balance among the following requirements:

- Avoid the abuse of monopoly power that arises from a natural (or artficial) monopoly in the gas industry.
- Preserve incentives for regulated companies and ensure that gas transmission, distribution and marketing companies recover the full economic cost of supply and a reasonable, but not excessive, profit.
- Allow participants in the gas industry to behave in a commercial way without unwarranted interference in management decisions.

Technical regulation seeks to:

- Ensure that gas consumers receive a reliable quality of service in return for paying prices that fully reflect economic costs.
- Avoid adverse impacts on health and the environment resulting from the transmission, distribution and usage of gas.
- Minimize the risks to public safety and property damage from unwanted gas escapes.

It is also necessary to achieve an effective balance between the Regulatory Authority and the regulated companies. Too much regulatory power or intervention can weaken incentives for companies to behave efficiently or to continue to invest. Too little could cause loss of wealth for the country in the long term. The guiding principles are to achieve clarity, transparency, autonomy, stability and certainty for participants in the industry and for consumers.

The working group has prepared draft legislation covering the gas sector. In the Bank's view, however, this draft legislation, as currently crafted, is not well suited to the circumstances that pertain in Kazakhstan. It proposes a single regulator for upstream and downstream operations. Taking into account the history of regulation in Kazakhstan and the existing institutional capabilities, it would seem more appropriate to keep the regulation of these two distinct areas separate. More specifically, the regulation of the downstream gas industry should be carried out be an energy regulator (or a natural monopoly regulator).

One option for strengthening regulation of the gas sector in Kazakhstan would be to make the Anti-Monopoly Committee truly independent, provide it with sufficient resources to deal with technical issues and transfer the responsibility for issuing licenses and concessions to this Committee. This would have the advantage of economizing on scarce and costly economic, financial and legal skills that are needed to regulate a wide range of natural monopolies. An alternative option would be to establish an independent energy sector regulator, who would be responsible for the electricity and downstream oil and gas industries (but not the upstream oil and gas industry).

Gas prices are currently regulated by the Anti-Monopoly Committee. The regulation of service quality is carried out by the Ministry of Energy, Industry and Trade and the Center for Standards and Metrology. The status of gas pricing may briefly be summarized as follows:

(a) Swap arrangements are common for both oil and gas in view of the constraints imposed by the configuration of the pipeline infrastructure.

(b) Domestically produced gas is sold in Western and Northern Kazakhstan for an average price of $29/thousand cubic meters (MCM). The cost of imports, on the other hand has ranged from $38/MCM to $55/MCM (Uzbekistan has been demanding $55/MCM).

(c) The Anti-Monopoly Committee also sets the price for gas transmission in Kazakhstan. The Committee currently employs a "postage stamp" approach whereby the rate is $5.5/MCM regardless of the distance the gas is shipped. While

this amount appears to be adequate to cover the current costs of gas transmission, it does not provide an efficient price signal. The Bank has previously indicated its support for distance based tariffs32 and continues to recommend that a distance based approach be employed. This could take the form of an MCM/kilometer basis. Alternatively, it may be preferable to develop a tariff structure based on geographic delivery zones.

(d) The Anti-Monopoly Committee also determines charges for storage of gas. In practice, however, the available storage capacity is only used sporadically to cover the increase in demand for gas during the winter months. Efficient use of the gas is undermined by (a) unclear rules of taxation, and (b) reluctance on the part of the Anti-Monopoly Committee to permit gas suppliers to pass the costs of gas storage on to consumers. The Bank recommends that the operation of the gas storage facilities be regulated in the same way as the other monopolies in the gas industry.

(e) The gas distribution company for each oblast charges a uniform price to all categories of consumers. Price levels are established by local government authorities. As has already been noted, in most cases prices are insufficient to cover the costs of distribution, maintenance and measures to reduce physical losses and leakage. As a result, the distribution companies have no funds to improve their service through modernization or improving the efficiency of their operations (e.g. through metering, improvements in billings and collections).

The regulation of prices should be closely linked to the regulation of service quality. This would make it easier for the regulator to assess the trade-off between increased quality and lower tariffs. In Kazakhstan, the regulation of service quality is carried out by the Ministry of Energy, Industry and Trade and the Center for Standards and Metrology. Prices are regulated by the Anti-Monopoly Committee. The Bank recommends that both these functions – the regulation of service quality and of prices – be conducted by a single institution. Both service quality requirements and the methodology for calculating prices could be included in the licenses issued by the regulator. This would allow the license holders to set prices and service standards in line with the rules contained in their licenses and it would relegate the task of the regulator to one of monitoring compliance. There would, incidentally, appear to be no obvious need to regulate prices at the well head.

The Fiscal Regime

Taxes in Kazakhstan are governed by Presidential Edict 2235 "Concerning Taxes and Other Obligatory Payments to the Budget" dated April 24, 1995, as amended by Edicts 2370 (July 20, 1995), 2824 (January 26, 1996) and Law Number 13-1 (June 26, 1996) of the Republic of Kazakhstan. This body of information establishes the basis for all State and local taxes with the exception of customs payments (which are established by customs legislation). As of January 1, 1997, all legislative and other acts

[32] See the Joint United Nations Development Programme/World Bank Energy Sector Management Assistance Programme study entitled Kazakhstan: Natural Gas Investment Strategy Study published in December, 1997.

contradicting Edict 2235 have no legal force. In addition, all acts of tax legislation are subject to publication, and matters of taxation may not be incorporated into non tax legislation.

The general tax rate applicable to legal entities in Kazakhstan is 30%. In addition to income tax, Kazakhstan imposes a 20% value added tax (VAT). A variety of local taxes are also imposed. The extraction industries are subject to a variety of different taxes including royalties, windfall profit taxes, and one time or periodical "bonuses" for exploration rights and commercial development of reserves.

The Government has submitted to Parliament specific legislation for the oil and gas sector which amends the Tax Code. The resultant legislation would specify in greater detail the special taxes and other payments, such as bonuses, royalties and excess profits taxes that would be payable by producers of mineral resources. It would also amend the income and value added tax provisions in the Tax Code and would add new excise taxes, including an excise tax on crude oil.

Table 1 below compares the tax provisions applicable to upstream petroleum operations in Kazakhstan (on average) with those applicable to producers in Azerbaijan and Turkmenistan (operating under production sharing agreements) and to producers operating under licensing agreements in Russia. The terms provided by Kazakhstan are competitive with those offered by the neighboring Caspian Region countries and more attractive than those offered by Russia, after taking account of the higher transportation cost associated with delivering crude oil from Kazakhstan to international markets. Within this context it is worth noting that the PSA arrangements in Azerbaijan stipulate that all associated gas not required for reservoir maintenance belongs to SOCAR.

Table 1- Comparison of Oil Tax Regimes

$/Barrel	Kazakhstan	Russia	Azerbaijan	Turkmenistan
Well Head Price	10.00	10.00	10.00	10.00
Operating Expense	(3.50)	(3.50)	(3.50)	(3.50)
Interest Expense	(0.50)	(0.50)	(0.50)	(0.50)
Profit Before Tax	6.00	6.00	6.00	6.00
Government Tax + PSA Take	(2.58)	(3.74)	(2.97)	(3.04)
Profit After Tax	3.42	2.26	3.03	2.96

Source: World Bank estimates

The downstream gas sector is subject to the taxes of general application (i.e. income taxes and VAT).

Non Payments

The most significant impediment to additional investment in the downstream gas sector is the non payments problem. Non payment problems pervade the energy sector throughout much of the former Soviet Union. The problem results from a variety of factors including (but not limited to):

- Payment capability constraints resulting from tight monetary, income and fiscal policies;
- The inability (or unwillingness) of suppliers to disconnect supplies to non paying customers;
- Lawlessness;
- Technical inability to disconnect individual residential users;
- Changes in the customer base – with industrial demand declining relative to household demand;
- The extensive use of barter transactions; and
- Poor corporate governance.

A number of practices have been identified that can help address this problem. At the utility level, these include:

- Elimination of un-metered consumption;
- Computerization of consumer accounts;
- The use of collection procedures that minimize the potential for collusion or other abuse (e.g. letters of credit for large customers);
- Elimination of resellers and other intermediaries;
- Payment incentives – incentives for collection staff have worked in Poland (although these have to be very carefully designed); price discounts for cash payments and factoring of receivables have also worked;
- The use of pre-payment mechanisms (e.g. pre-payment meters).

At the government level, key measures include:

- Actions to ensure that government budget entities and state owned enterprises manage both their consumption and their payment obligations;
- Structuring discounts and subsidies in a fashion that ensures that the benefits apply only to those that need the protection of a social safety net;
- Orderly corporatization, commercialization and privatization to strategic investors.

Of all the various solutions, evidence suggests that privatization to strategic investors yields the best result. Such investors, however, have to have both the willingness and the political support to be able to implement such measures as disconnecting non paying customers. More broadly, it is essential that the Government be committed to resolving the non payment problem. Such a commitment must include the willingness to budget effectively and to apply hard budget constraints to government budget entities and state owned enterprises to ensure not only that they control their consumption but also that they pay (in cash) for what they consume.

Privatization

Kazakhstan has made considerable progress in privatizing its economy. Using as a measure the share of GDP accounted for by the private sector, Kazakhstan is ahead of all the former Soviet Union countries and much of Eastern Europe. (Currently about 60% of Kazakhstan's GDP is produced by the private sector). Only in Poland, the Czech Republic and Hungary does the private sector account for a larger share of GDP.

More than anything else, speed of implementation has characterized the privatization process in Kazakhstan when compared with many other countries. The trade offs for the speed of privatization, however, have included (i) the low returns obtained by the Government for many of the privatized enterprises; (ii) residual problems associated with the lack of an adequate legal, regulatory and fiscal framework at the time many of the enterprises were privatized; and (iii) allegations of corruption related to the privatization process. While proper analysis and preparation might have enhanced the returns obtained by the Government, one of the driving forces behind the effort was a major concern that the Government could not handle the social obligations associated with all the state owned enterprises it inherited from the Soviet Union.

The Institutions Involved in the Privatization Process

A number of institutions have been involved in the privatization process in Kazakhstan:

The President: Since its independence, Kazakhstan has passed two constitutions, one in 1993 and the second in 1995 (the latter is more authoritarian in nature). While the Constitution places the responsibility for management of the economy in the hands of the Prime Minister, the President's consent is required for the privatization of any "strategic company". This severely limits the power of the various institutions and ministries in any important decisions with regard to these companies.

The State Property Committee (SPC): While it played a relatively minor role in the first phase of privatization (between February, 1991 and March, 1993), the SPC became the central state body responsible for all privatizations once the second phase started in March, 1993. The SPC holds the ownership right to state property and its Chairman holds the position of Deputy Prime Minister. Notwithstanding this, the Cabinet of Ministers and the President's Apparat make all the final decisions on privatization. The Prime Minister or the President can, at any point in time, stop a sale, sign a management contract or sell an enterprise to an investor without a tender.

The Territorial Committees: These are the local extensions of the State Property Committee. Their main function is to lay the ground work for privatizations. More specifically, they deal with the preparation for privatization, the auctions for small scale privatizations and the corporatization of enterprises.

The Regional Administration: The regional administration plays a key role in every aspect of the privatization process, in particular in the selection and valuation of enterprises. It has the authority to oppose the privatization of enterprises and can impose obligations on the new owners of enterprises. More importantly, and this is critical in the

privatization of enterprises in the gas sector, it may impose prices for some products or oblige some companies to supply state organizations on preferential terms.

The Cabinet of Ministers and the President's Apparat: While the President's Apparat manages the President's relationship with the Government, the Cabinet of Ministers is responsible for key political and economic decisions. Theoretically, the SPC has the power to deal with all aspects of privatization. In reality, the President's Apparat and the Cabinet of Ministers frequently interfere in this process. The concentration of power at the level of the President and the Prime Minister reduces the transparency and openness of the privatization process.

The Holding Companies: During the transition, many subsector ministries were absorbed into larger ministries. Within these ministries they continued to coordinate the activities of the various enterprises under their jurisdiction. From there it was only a small step for the Government to convert them into holding companies by transferring the ownership of the enterprises under their jurisdiction to them. An example in the energy sector is the creation of Kazakhoil. Kazakhoil is now a holding company of state oil and gas enterprises in Kazakhstan that were formerly under the Ministry of Oil and Gas Industries. The Ministry was abolished and the staff transferred to Kazakhoil. The legal status of the state holding companies, such as Kazakhoil, is ambiguous. While they do not have the right to sell shares, it seems they can oppose the privatization of their subsidiaries. In essence, the holding companies have emerged as a counterweight to the SPC, interfering with the privatization process.

Privatization of the Gas Sector

The petroleum sector was the part of the economy that first attracted significant foreign investor interest. As a result, gas production was the first segment of the gas sector to experience privatization. Private sector interests now manage most of Kazakhstan's gas production.

While the upstream petroleum sector has been affected by the decline in world oil prices, development efforts are continuing. These development efforts, however, are focused on producing oil and delivering it to international markets. The industry has done relatively little up to this point to identify (and implement plans to service) new gas markets in order to dispose of the associated gas production. Unless such markets are developed, there is a risk that future oil (and gas condensate) production could be constrained.

Until February 1996, gas transmission pipelines had been excluded from the Government's privatization efforts. At that time, however, then Prime Minister Keshageldin decided to privatize the gas industry. As a first step, he decided to privatize gas transmission in the form of a concession to be followed, at a later stage, by the privatization of gas distribution. The Ministry of Oil and Gas Industries (MOGI) opposed this plan. Consequently, the Prime Minister decided to transfer management of this privatization process to Kazkommersbank.

Kazkommersbank initiated a competitive bidding process which attracted serious interest from four foreign investors. A Swiss group pulled out before the selection

process was complete leaving bids from Bridas (of Argentina), Tractebel (of Belgium) and a joint venture of Enron (of the US) and Gaz de France.

The terms of reference for the bidding process, however, were somewhat vague. Consequently, the bidding process did not provide a clear and transparent result. Bridas was initially selected to negotiate a concession arrangement. The negotiations between Bridas and the Government, however, broke down and the Government then turned to Tractebel. The Government and Tractebel did succeed in coming to an agreement and the Concession Agreement was executed in June 1997. While the Government did engage the services of the local branch of an international law firm, it did not engage the services of a financial advisor experienced with international energy operations. Such an advisor would likely have expanded the pool of potential investors (thereby increasing the competition for the business), developed a more comprehensive set of terms of reference and would have provided a greater assurance that the final deal fully serves Kazakhstan's interests.

At the time the negotiation with Bridas broke down, the Bank had advised the Government to recommence the bidding process with revised terms of reference and the support of experienced financial advisors. The Government elected, however, to initiate discussions with Tractebel.

The terms of the concession agreement involved initial bonus payments, ongoing system royalty payments and net profit interest payments. In addition, Tractebel made a commitment to a level of capital investment to maintain and preserve the transmission system and made a commitment to invest in the construction of a gas line to bypass the Kyrgyz Republic. In macro economic terms, the construction of such a bypass line is a redundant investment. The purposes of constructing the bypass, however, are (i) to eliminate an obligation to pay transit fees to Kyrgyz for gas being delivered to Almaty, and (ii) to address the problem of excessive losses associated with the gas transiting Kyrgyz. (It should be possible to resolve the transit fee issue in a satisfactory fashion through negotiation. It may also be possible to resolve the excessive loss problem through a negotiation that involves the installation of meters on both sides of each border where the pipeline crosses between Kazakhstan and Kyrgyz. If the two issues can be solved in a satisfactory fashion, the imperative to proceed with construction of the bypass line should be eliminated).

The concession agreement stipulates that domestic gas tariffs will be determined in accordance with Kazakhstan legislation (subject to possible review by an independent expert). Tractebel, however, has the right to negotiate the international gas tariffs applicable to gas transiting Kazakhstan. The initial concession runs for fifteen years and is extendable for a further fifteen years.

Tractebel established a local company, Intergas, to manage the gas transmission operation. Following execution of the concession agreement, however, Intergas has faced a number of difficulties:

(a) The economic viability of the concession arrangement was largely predicated on the receipt of transit fee revenues associated with the transportation of gas from Turkmenistan to markets in the former Soviet Union and Eastern Europe.

Turkmenistan, however, has had difficulties in reaching agreement with Gazprom on arrangements to transport this gas through the Russian pipeline network. (Turkmenistan has also had problems obtaining payment from customers such as Ukraine). Consequently, no Turkmenistan volumes were transported through Kazakhstan between March 1997 and December 1998. Deliveries to Ukraine recommenced at the beginning of 1999. In the meantime, however, Intergas' transportation revenues have been limited to delivery volumes for the domestic market, some limited export volumes from Uzbekistan to Ukraine and transit of Russian volumes through the northern part of Kazakhstan. Intergas had been anticipating annual transportation revenues in the range, initially, of $120 to $180 million (paid in the form of gas supplies) related to the transportation of gas from Turkmenistan. These did not materialize in 1997 and 1998.

(b) Tractebel had demonstrated very positive results in addressing non payment problems in the power sector through its ownership of Almaty Power Consolidated (which generates and distributes power in Almaty) – collection rates improved from about 30% to about 90% in the first six to nine months of operation under Tractebel's management. This performance, however, reflected the strong Government support that Tractebel received to pursue measures such as disconnection to address non payment problems. While Tractebel anticipated similar success in the gas sector, Intergas has not been able to deal effectively with the non payment problems – collection rates are currently running at about 30%. A couple of factors clearly distinguish the Intergas situation from the Almaty Power situation:

- While Intergas can supply certain large gas consumers it does not sell directly to most of the end users, rather it sells services to the companies that supply the end users. Disconnection of these distribution companies has a potentially far wider impact than disconnection of individual end users.
- State owned companies (i.e. all the Oblagas distribution companies) are instructed by the Government to supply gas to consumers even if they do not pay. This has exacerbated the precarious financial situation of these companies and has forced them into a situation where they cannot pay their suppliers such as Intergas.
- There is a clear perception that the Government will not provide Intergas the level of support necessary to enable it to take severe corrective measures to deal with non payments.

(c) The lack of explicit regulatory provisions (covering , for example, the methodology for calculating domestic transportation tariffs) at the time the concession agreement was executed has proved to be a source of some friction in the relationship between the Government and Intergas. This has led to accusations of breach of contract and threats to pursue arbitration.

(d) Government perceptions concerning Intergas' role in assuring gas supplies to Kazakhstan have also been a source of friction between the company and the Government. Prior to liberalization of the gas sector, decisions on trading arrangements were made by a single centralized authority. Since this authority dealt with large volumes of gas (imports, exports, trans-shipments), it wielded considerable

clout. In negotiations with trading partners, it could also deal with all trade issues simultaneously. This bargaining power, however, has now been fragmented with a number of consequences:

- Uzbekistan is taking advantage of this situation by raising the price of gas to Kazakhstan's three southern oblasts (which are dependent upon imports). The most recent price increase from $38/MCM to $55/MCM took place July 1, 1998. At the same time Uzbekistan is preventing Kazakhstan from purchasing gas from Turkmenistan (at a lower price) and transporting it across Uzbek territory.
- Government officials are becoming increasingly concerned about Uzbekistan's monopoly position, and are contemplating some form of a return to a centralized management of gas trade with other countries.
- Intergas and other entities in the gas sector in Kazakhstan are forced to attempt to deal with state monopolies in neighboring gas export countries. With their limited market power the individual Kazakh companies are at a disadvantage.

Next Steps

Kazakhstan faces the dual challenge of resolving certain problems associated with the portion of the gas sector that has already been privatized and completing the privatization of the sector. Measures to address this challenge include the following:

(a) A solid legislative and regulatory framework should be put in place for the gas sector as quickly as possible. This should precede further privatization efforts in the sector.

(b) The problem of non payments should be accorded priority attention. The Government needs to take a leading role in this effort and should set an appropriate example by budgeting adequately for its energy consumption, enforcing hard budget constraints and ensuring that suppliers are paid. The Government should also demonstrate its commitment to this exercise by supporting the introduction of measures such as disconnection and the application of bankruptcy proceedings designed to address non payments.

(c) Once the legal and regulatory framework is in place, Kazakhstan should proceed with the privatization of the eight Oblagas distribution companies. The privatization exercise will have multiple objectives. For the companies these include improvements in operating efficiency and access to financing for investments to rehabilitate and expand distributions systems. For the Government, the objectives include additional revenues for the budget and a reduction in expenditures for social liabilities. It is the Bank's recommendation that the Government entrust this task to a single agency and enable this agency to engage qualified financial and legal advisors to help manage the privatization process. (The advisory role would include developing comprehensive terms of reference for the privatization, targeting potential

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investors with the access to capital and the entrepreneurial drive to achieve the privatization objectives[33] and structuring the privatization deals).

(d) Privatization of the distribution companies will likely need to be phased. Simultaneous privatization of all eight distribution companies would exceed the capacity that is currently available within the Government for such an effort. Instead, priority should be given to the privatization of the gas distribution companies in the three southern oblasts. These companies serve the largest markets. They are also wholly dependent upon imported gas. Private ownership should enhance the ability of these companies to deal with non payment issues and to negotiate arrangements to import gas.

(e) Kazakhstan should also proceed with the privatization of the LPG business, taking care to ensure that a public sector monopoly is not converted into one or more private sector monopolies.

[33] Experience in other countries suggests that the Government should avoid the option of selling majority stakes to the workers in the company and/or its management. In addition to lacking access to capital, company employees are often unwilling to take unpopular decisions and are susceptible to political pressures.

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