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Regulatory Reform And Energy Sector Restructuring Contract

Executive Summary of Interim Privatization
Analyses of Regional Electricity Distribution
Companies in Poland

June 1996

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Bechtel International Consulting Group



**Executive Summary of Interim
Privatization Analyses of Regional Electricity
Distribution Companies in Poland**

**The project sponsored by U.S. Agency For International Development
Bureau for Europe and the New Independent States**

June 1996

**Regional Energy Efficiency Project
Regulatory Reform and Energy Sector Restructuring in Poland
Contract Number 180-00301-POL-BCOR004**

Arthur Andersen Polska Sp z o o
Corporate Finance

Executive Summary of Interim Privatization Analyses of Regional
Electricity Distribution Companies in Poland

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1 Introduction

1.1 Arthur Andersen Polska Sp. z o.o. ("AAP") was engaged by Bechtel Corporation (hereinafter referred to as "Bechtel") in a pilot privatization program of three regional electricity distribution companies (hereinafter referred to as "EDCs"), Górnolódski Zakład Energetyczny S.A. in Gliwice (hereinafter referred to as "GZE"), Energetyka Poznańska S.A. in Poznań (hereinafter referred to as "EP SA") and Zakład Energetyczny Toruń S.A. in Toruń (hereinafter referred to as "ZET"). The pilot privatization program was financed by the United States Agency For International Development (hereinafter referred to as "USAID") under the Regional Energy Efficiency Project (Contract Number 180-00301-POL-BCOR004) - Regulatory Reform and Energy Sector Restructuring in Poland.

The scope of the engagement agreed between Bechtel and AAP was defined to meet formal requirements of the Privatization Act dated July 13th, 1990 (Dz. U. dated August 1st, 1990 with further amendments) and applicable ordinances of Ministerstwo Przekształceń Własnościowych (the Ministry of Ownership Transformation, hereinafter referred to as "MPW") regardless it was not legally binding to any party. As required by aforementioned law AAP's work included preparation or co-ordination of preparation of

- a. interim legal analyses of EDCs together with recommendations,
- b. interim economic and financial reports on EDCs consisting of marketing, technical, environmental, organizational and financial analyses,
- c. advisory reports on interim indicative valuation of EDCs using three appraisal methods of adjusted net book value, discounted cash flows and P/E multiple,
- d. privatization concepts and strategies for EDCs,
- e. an executive summary of interim privatization analyses of EDCs for Bechtel and USAID

AAP subcontracted interim legal analyses to its affiliate legal practice "Szubielska, Gromek, Zakrzewski i Janiak" Kancelaria Prawnicza Sp. z o.o. (hereinafter referred to as "SGZJ"). AAP prepared the scope of environmental analyses for EDCs and made the review of their results. Environmental analyses were performed by independent environmental consultants from DHV Polska Sp. z o.o. selected individually by GZE and EP SA. In case of ZET the analysis was conducted by ZET's internal environmental experts. Technical analyses were prepared jointly by AAP and technical experts from EDCs.

This executive summary is intended solely for purposes of Bechtel and USAID. The document reflects the status of events as at June 1996 and it does not reflect changes which occurred successively to that date.

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- 1 2 The field work of the pilot privatization project started in February 1996 and ended in June 1996. Reports prepared by AAP and its subcontractors reflect the status of events as at April 1996 in case of GZE and June 1996 in case of EP SA and ZET.

AAP and its subcontractors prepared reports based on the information provided individually by EDCs to AAP and publicly available information. AAP or its subcontractors did not verify the accuracy and reliability of information obtained. Because the procedures applied by AAP and its subcontractors did not constitute an audit or a review made in accordance with International Standards on Auditing, we did not express in our reports any opinion on any of the elements or information referred to above.

Had we performed additional procedures or had we made an audit or a review of the financial statements or any other information referred to above in accordance with International Standards on Auditing, other matters might have come to our attention that would have been reported in our reports. We made no representation in our reports regarding the sufficiency, for purposes of EDCs or Bechtel or USAID, of the procedures applied during our work.

- 1 3 The following reports have been prepared by AAP and its subcontractors and delivered to EDCs and Bechtel:

- a Reports on interim economic and financial analysis of GZE, EP and ZET,
- b Advisory reports on interim indicative valuation of GZE, EP and ZET,
- c Reports on privatization concept and strategy for GZE, EP and ZET,
- d Reports on interim legal analysis of GZE, EP and ZET.

The aforementioned reports were prepared in Polish language.

- 1 4 AAP and its subcontractors had used following sources of information in preparation of the reports:

- a Auditors' Reports of the EDCs,
- b Financial Statements prepared by the EDCs in format required by the Polish Central Statistical Office,
- c other non-verified information received from the EDCs,
- d interviews with employees of EDCs,
- e legal and environmental analyses of individual EDCs prepared by subcontractors and/or internally by the EDCs,

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- f statistical yearbooks for the energy sector in Poland prepared by Centrum Informatyki Energetyki,
- g existing and proposals of prospective energy regulations,
- h other publicly available information

2. Electricity Distribution Sector in Poland

2.1 Electricity Sector

The electricity sector in Poland consists of three sub-sectors dealing with generation, transmission and distribution of electricity. The electricity market is dominated by the transmission company Polskie Sieci Elektroenergetyczne SA (Polish Power Grid, hereinafter referred to as "PSE") which purchases electricity from system generators and sell it to all distribution companies. PSE owns the nationwide transmission network consisting of high voltage electric grid (220 - 750 kV) and system stations. The Polish transmission network is connected to foreign electricity transmission networks which enables cross-border sales of electricity. Selected data characterizing electricity supply and consumption in Poland are presented in Table 2.1

Table 2.1 Selected Statistical Data On Electricity Sector In Poland

		1993		1994		1995	
		Volume	% ¹	Volume	% ¹	Volume	% ¹
SUPPLY		139,467		139,910		143,258	
Total production of electricity, incl	GWh	133,867	100.0	135,347	100.0	138,902	100.0
Public coal-fired power plants	GWh	121,766	90.9	123,129	91.0	126,773	91.3
Public water power plants	GWh	3,576	2.7	3,786	2.8	3,780	2.7
Industrial power plants	GWh	8,525	6.4	8,432	6.2	8,349	6.0
Import	GWh	5,600	4.2	4,563	3.4	4,356	3.1
CONSUMPTION		139,467		139,910		143,258	
Domestic Consumption	GWh	114,527	85.6	115,365	85.2	117,912	84.9
Export	GWh	8,011	6.0	7,242	5.4	7,157	5.1
Losses	GWh	16,929	12.6	17,303	12.8	18,189	13.1
Nominal capacity	MW	32,750		33,116		33,000	

Source: Centrum Informatyki Energetyki, Zakład Energometrii

¹ Total domestic production of electricity = 100

Sales of electricity in Poland are strongly correlated with changes in GDP. The fall in GDP in the years 1989 - 1991 was accompanied by a fall in consumption of electricity. The trend had been reversed in 1992 and growth of sales volume continued until 1995. Nevertheless domestic consumption of 117.9 TWh in 1995 is far below electricity consumption in the mid of the eighties.

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2.2 Electricity distribution

Current legal regime combines distribution of electricity with its supply to final buyers. There are thirty three regional electricity distribution companies which cover area of the whole country. All EDCs are joint-stock companies fully owned by the State Treasury represented by Ministerstwo Przemysłu i Handlu (the Ministry of Industry and Trade, hereinafter referred to as "MPiH").

Many of EDCs are partially vertically integrated but in the most cases generation capacity is immaterial to their operations. EDCs are natural monopolies in distribution and regional monopolies enforced by the law in supply of electricity. EDCs are obliged by the existing law to supply electricity to all final buyers. Supply of electricity may be ceased only in case of illegal or unsafe electricity usage or in case of not meeting payment deadlines. In practice supply of electricity is discontinued only if clients permanently breach conditions of agreements with suppliers. Legal enforcement of monopoly compensates EDCs for their obligations as a supplier of electricity.

GZE is the largest regional electricity distribution company in Poland in terms of turnover. Its market share is around 12% in terms of volume and 11% in terms of sales value. Table 2.2 illustrates market shares of EDCs from the pilot privatization program for last three years.

Table 2.2 Sales Of Electricity In Poland

		1993	1994	1995
Volume	[GWh]	92,344	93,378	96,036
Index	[%]	N/A	101.1%	102.8%
GZE share	[%]	12.5%	12.0%	12.0%
EP SA share	[%]	4.8%	5.1%	4.7%
ZET share	[%]	2.7%	2.5%	2.5%
Value	[PLN thousands]	6,702,852	8,999,046	11,431,179
Index	[%]	N/A	134.3%	127.0%
GZE share	[%]	11.3%	10.8%	10.8%
EP SA share	[%]	5.3%	5.6%	5.3%
ZET share	[%]	2.7%	2.5%	2.5%
Inflation for the year		N/A	33.6%	25.3%

PSE is a monopolistic supplier of electricity for most of the EDCs. Regulations on purchases of electricity from PSE by the EDCs change frequently. Electricity prices vary depending on time during the day, working days and holidays, summer season and winter season. The cost of energy purchased from PSE includes also additional charges for usage of the system. In 1995 prices of electricity sold by PSE were unified for all EDCs. In the

mid-1996 PSE changed the regulations and introduced regionalization of purchase prices. In day-to-day practice, PSE adjusts prices for individual EDCs retrospectively. This practice is applied in order to transfer profits from the distribution sub-sector to other sub-sectors and to equalize profitability of EDCs. However, such a practice does not stimulate application of cost savings policies.

2.3 Pricing mechanisms

Final buyers of electricity are stratified in terms of electricity tariffs. There exist five price tariffs differentiating customers with respect to purchase voltage and type of final buyer, as illustrated in Table 2.2. Main consumers of medium voltage electricity (voltage 1kV-60kV) are industry and public railway. Low voltage electricity consumption is dominated by households and farms.

Table 2.3 Final Buyers Stratification

Tariff A	voltage \geq 110kV
Tariff B	voltage 1kV- 60kV
Tariff C	voltage < 1kV
Tariff G	households and farms irrespective of voltage supplied
Tariff R	lump sums

Electricity prices for the final buyers are set by ordinances of Ministerstwo Finansów (the Ministry of Finance, hereinafter referred to as "MF"). Wholesale purchase prices of electricity for EDCs are set by the MPiH. The financial performance of EDCs depends therefore on independent pricing policies of MF and MPiH which many times serve different objectives. MF's ordinances set the maximum prices for particular tariffs and EDCs may charge their customers lower prices based on individual arrangements. Settlements with EDCs comprise lump sum payments occurring on a monthly or yearly basis, charges for electricity actually consumed, charges for active and reactive energy and maintenance fees.

Average selling price for final buyers increased from 3.94 US cents/kWh in 1993 to 4.92 US cents/kWh in 1995 mainly as a consequence of appreciation of Polish zloty in relation to the United States dollar. Differences between particular tariffs for final buyers should reflect different transmission and supply costs incurred by EDCs. Average purchase price of electricity from PSE increased from 2.34 US cents/kWh in 1993 to 3.02 US cents/kWh in 1995. High increase of the purchase price in 1994 reflects unfavorable movements in variable costs of generators caused by increase of price of coal.

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**Table 2.4 Average Prices In Distribution Sub-Sector For 1MWh Of Electricity
(PLN/MWh)**

Sales prices:	1993	1994	<i>Ch'ge [%]</i>	1995	<i>Ch'ge [%]</i>
Tariff A	53 4	71 8	34 5%	86 0	19 8%
Tariff B	68 9	91 6	32 9%	109 0	19 0%
Tariff C	100 3	134 6	34 2%	164 0	21 8%
Tariff G	81 1	105 4	30 0%	141 0	33 8%
Tariff R	130 3	178 9	37 2%	N/A	N/A
Average selling price	72 4	96 1	32 7%	119 0	23 8%
Average selling price in USD/MWh *	39 4	42 1	6 9%	49 2	16 9%
Average purchase price	43 1	61 0	41 5%	73 0	19 7%
Average purchase price in USD/MWh *	23 4	26 7	13 6%	30 2	13 1%
Purchase price to selling price (%)	59 5%	63 5%		61 3%	
Average PLN/USD exchange rate	1 8392	2 2818		2 4197	
Inflation for the year		33 7%		25 3%	

Source Centrum Informatyki Energetyki, Zakład Energoelektryki

* calculated by AAP based on average exchange rate for the period

MF's pricing policy assumes future growth of electricity prices for final buyers at or below inflation rate in the years 1996, 1997 and 1998. Taking into account planned increases of the VAT rate on sales of electricity (by 5% in 1997 and another 5% in 1998), revenues of the companies in the energy sector may grow below the inflation rate despite a potential upturn in electricity volume. Such a policy, assuming preservation of import parity of coal prices for the generators, may adversely affect the profitability of the distribution sub-sector. According to MPiH electricity prices should grow at a rate exceeding inflation by a few percentage points, considering the existing significant deviation of electricity prices from economically justified levels.

2.4 Expected future changes

New energy law was drafted and may approach the vote in the Parliament in May 1997. According to the provisions of the new energy law market mechanisms will be introduced to the electricity market in a form of third parties access to the distribution grid and exchange mechanisms in generation. It is expected that distribution of electricity would be separated into distribution and supply. Potential suppliers of electricity will have to apply for concessions which should create the only barrier for the new entrants. The independent body of the Energy Regulatory Agency (hereinafter referred to as "ERA") will ensure protection of customer rights and prevent unjustified increases in electricity prices.

Pricing regime is not expected to change until at least two years after the new energy law comes into force. In the future pricing policy will be administered by an independent body.

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the ERA. However, it is not clear what policies ERA should or will adopt, considering that its goals will include the protection of final buyers, protection of suppliers and ensuring the safety of Polish energy system.

The wholesale market for electricity is also expected to be subject to market rules. Rights to purchase energy will be granted to third parties. The Polish government expects the current shape of the market to last for the next 5 years, until the prices of electricity for final buyers reach economically justified level. The market will be split into wholesale system market (for voltages of 220kV and higher) and local markets (for lower voltages). The wholesale system market will be composed of an exchange type market and a contractual market based on short-, medium- and long-term contracts. EDCs will have a possibility to buy electricity directly from generators without the intermediation of PSE.

3. Interim privatization analysis of Górnool'ski Zak³ad Elektroenergetyczny S.A. in Gliwice ("GZE")

3.1 Marketing analysis

GZE is an electricity distribution company and the supplier of electricity to final buyers in the South-Western part of the Katowice voivodship in the Upper Silesia region. The Company serves an area of 4,221 km², which is one of the smallest among all EDCs, but consumes the biggest amounts of electricity. Population in the area amounts to 2.5 million, approaching 6.6% of total population in Poland.

Number of GZE's customers is quite stable. At the end of 1995 it amounted to 1,111,054, with more than 92% of them being households and farms.

Table 3.1 Number Of GZE Customers By Tariffs

	1993	1994	1995
Tariff A - voltage ≥ 110 kV	71	71	68
Tariff B - voltage 1 kV - 60 kV	1,146	1,138	1,136
Tariff C - voltage < 1 kV	72,800	75,486	78,059
Tariff G - households and farms	1,034,339	1,030,102	1,031,657
Tariff R - lump sums	58	111	134
Total number of customers	1,108,414	1,106,908	1,111,054

Average selling prices of GZE in years 1993-1995 were lower than average selling prices for all EDCs. The lower average selling prices reflected a specific sales mix of GZE where nearly half of electricity was sold under tariff A (the tariff including coal mines and steel plants).

Table 3.2 GZE Average Price For 1 MWh By Tariffs

		1993	1994	1995
Tariff A	[PLN/MWh]	54.5	74.7	88.7
Tariff B	[PLN/MWh]	66.4	88.8	105.9
Tariff C	[PLN/MWh]	103.0	135.5	165.6
Tariff G	[PLN/MWh]	86.8	102.2	143.5
Tariff R	[PLN/MWh]	45.3	183.4	219.1
GZE's average selling price	[PLN/MWh]	65.8	86.6	106.6
All EDCs' average selling price	[PLN/MWh]	72.4	96.1	119.0
GZE's average purchase price	[PLN/MWh]	47.4	68.7	76.7

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Existence of heavy industry in the area significantly affects the performance of GZE. The breakdown of GZE's sales mix in terms of volume is shown in Table 3.3. Almost 50% of electricity is sold to coal mines and steel plants.

Table 3.3 GZE Electricity Sales Structure

		1993		1994		1995	
Electricity sold	[GWh]	11,522	100.0%	11,216	100.0%	11,526	100.0%
<i>Index</i>	<i>[%]</i>	-		97.3		102.8	
Coal mines	[GWh]	4,523	39.3%	4,499	40.1%	4,484	38.9%
Steel plants	[GWh]	1,743	15.1%	1,774	15.8%	1,080	9.4%
Public railway	[GWh]	293	2.5%	293	2.6%	296	2.6%
Households	[GWh]	1,620	14.1%	1,619	14.4%	1,621	14.1%
Farms	[GWh]	67	0.6%	65	0.6%	63	0.5%
Other customers	[GWh]	3,276	28.4%	2,966	26.5%	3,982	34.5%

Financial standing of the coal mining industry is very poor. In April 1996, a restructuring program for the Polish coal mining industry was approved by the Government. In the years 1996-2000 liquidation of 16 coal mines (out of 59 currently existing) is planned which will lead to reduction of coal extraction by 18.5%. The steel industry in the region reported a significant slump in the years 1988-1992, but now is on the upward trend. Increasing demand for steel products may not be however reflected in increasing demand for electricity. Under restructuring programs steel plants are improving efficiency and minimizing unit production costs.

In 1996 the Government set up the Special Economic Zone (hereinafter referred to as "SEZ") in Katowice voivodship. SEZ gives prospective investors to the region significant tax incentives. The program is aimed to enforce a restructuring process of the region and shift employment from declining to matured and rising industries. It is expected that demand for electricity in the area will increase in years 1999-2005 due to general economic growth in the region.

Table 3.4 GZE Electricity Balance

		1993	1994	1995
Electricity purchases, incl	GWh	12,726	12,415	12,780
PSE	GWh	12,714	12,412	12,775
Industrial power stations	GWh	12	3	5
Electricity sales	GWh	11,522	11,216	11,526
Electricity losses	GWh	1,204	1,199	1,254
<i>Loss factor</i>	<i>[%]</i>	9.5%	9.7%	9.8%

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Table 3.4 presents the electricity balance. Nearly 100% of electricity is purchased from PSE. Less than 1% of electricity is purchased from industrial power stations. Electricity loss factor of GZE is one of the lowest among EDCs.

3.2 Financial analysis

Basic financial data for the period 1993-1995 is presented in Table 3.5 below.

**Table 3.5 GZE Financial Data
(thousand PLN)**

For the year	1993	1994	1995
Income statement			
Sales	777,146	999,312	1,265,998
Electricity sales	757,816	971,488	1,241,224
Other sales	19,330	27,824	24,774
Gross Profit	171,096	144,945	281,159
EBIT	51,730	9,392	88,746
Net profit after tax	36,053	11,212	52,238
Balance sheet			
Fixed assets	209,610	229,881	832,522
Current assets	152,793	149,406	165,971
Total assets	362,403	379,287	1,003,257
Current liabilities, including	125,493	139,692	166,349
Trade creditors	108,071	127,417	147,496
Net working capital	44,722	21,989	18,475
Debt	9,345	8,010	21,665
Equity	227,565	231,585	815,243
Profitability measures			
Gross profit margin	22.0%	14.5%	22.2%
Net profit margin	4.6%	1.1%	4.1%
ROA	9.9%	3.0%	5.2%
ROE	15.8%	4.8%	6.4%
Liquidity ratios:			
Current ratio	1.22	1.07	1.00
Quick ratio	1.16	1.04	0.98
Turnover ratios (in days):			
Debtors turnover ratio	63.2	44.9	32.1
Creditors turnover ratio	65.1	54.4	54.7
Cash turnover ratio	2.0	4.9	6.1
Debt leverage	4%	3%	3%

GZE financial situation varied significantly over past few years due to changes in margin on electricity distribution and problems with collection of receivables from coal mines and

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steel plants. With selling prices fixed by MF, GZE's margin on electricity distribution was changing accordingly to the policy of MPiH on distribution of profits and liquidity problems in the coal mining industry. Increases in prices of coal in 1994 caused increase of the purchase price from PSE of 44.9%, which was far above inflation. As a result, margin on distribution of electricity decreased from 20.4% in 1993 to 12.1% in 1994. In the 1995 margin on electricity distribution increased to 21.0% due to 23.1% rise in the average selling price accompanied by only 11.6% increase in the purchase price. The low increase of the purchase price was due to appreciation of Polish z³oty which weakened the pace of growth in coal prices, based on the United States dollar parity.

In 1995 compensation schemes were introduced between coal mines, power plants, PSE and GZE to improve liquidity. All parties offset receivables one another. It improved liquidity of the company in the first half of 1995, however in the second part of the year GZE had liquidity problems caused by problems with collection of receivables from steel plants involved in bank conciliatory proceedings.

Changes in ROE (or ROCE) were caused by changes in net profit margin and changes in fixed assets turnover. GZE revalued fixed assets 4.7 times as at January 1st, 1995. Revaluation of fixed assets was performed based on the rules set by the ordinance of MF purported to introduce market valuation of the assets of EDCs into their financial statements. All fixed assets were subject to the revaluation and were revalued using indices set in the ordinance or revalued to the market valuation in the case it was materially different. Excluding the effects of fixed assets revaluation, ROE in 1995 was similar to ROE in 1993.

The average depreciation ratio of GZE's fixed assets equals to 6.4% at December 31st, 1995 with machinery and equipment being the most depreciated group of fixed assets. This ratio does not reflect appropriate depreciation of fixed assets due to netting off. Netting off was obligatory as at January 1st, 1995 and was performed with regard to the fixed assets existing at the date of transformation of the company in 1993 from a state-owned enterprise into a joint stock company. The new gross book value as of January 1st, 1995 was assumed to equal net book value of the assets at that time. Resultant changes in accounting policies of GZE made financial statements for 1993-1995 incomparable in case of fixed assets and depreciation charges. According to the recent ordinance of the Ministry of Finance issued in 1996 netting off was not economically justified and should be reversed in 1996. Correct figures for historic costs and depreciation of fixed assets should be entered into the books.

GZE's operating costs structure changed during the period due to spin-offs of auxiliary activities and transfer of employees to subsidiaries. Depreciation of fixed assets doubled in 1995 due to revaluation of fixed assets.

3.3 Summary of technical analysis

The condition of the distribution network owned by GZE varies with regard to the age of equipment installed and its technical development. Environmental conditions in which GZE operates are among the worst in the country due to air pollution and mining damages

Table 3.6 contain technical data on distribution grid of GZE

Table 3.6 Technical Data On Distribution Grid

Distribution grid

High voltage 110kV	km	2 009
Medium voltage 15-60kV	km	7 960
Low voltage	km	20 640

Distribution stations

GPZ 110kV	units	92
GPZ 60kV	units	5
Medium voltage	units	8 065

In comparison to other energy distribution companies, GZE is extensively implementing new technologies. The aim of GZE's investment program is to modernize and develop the existing distribution network in order to improve quality and reliability of services for the final buyers. Main streams of capital expenditure comprise modernization of low- and medium voltage distribution grids and implementation of the new integrated information system

3.4 Summary of organizational analysis

In the years 1992-1995 GZE has spun-off local electricity distribution centers (hereinafter referred to as "LEDCs") and auxiliary activities. GZE operates in a form of a holding company controlling 15 LEDCs and 11 limited liability companies (hereinafter referred to as "LLPs") with GZE capital interest. LLPs render services to GZE as well as to outside customers. Major shareholders in subsidiaries apart from GZE are employees, local authorities and PSE. LEDCs primary activities include repairs and maintenance of distribution grid in the local area and providing customer services. LLPs cover broad range of services including car dealership, leisure, medical services, etc

Employment in GZE dropped significantly over the years 1993-1995 from 3,279 persons at the end of 1993 to 446 persons as at December 31st, 1995, including 414 full-time employees. Consequently to the restructuring program employees were transferred to LEDCs and LLPs. As at December 31st, 1995 employment in GZE's holding totaled to 3,517 persons. Out of 446 GZE's employees 35% work in GZE for more than 10 years. Approximately 51% of employees are less than 40 years old

Current GZE's organizational structure is under review and reorganization due to projected implementation of the new integrated information system

3.5 Summary of environmental analysis

GZE is operating in the region which is one of the most polluted in Poland due to heavy industrialization. In order to satisfy environmental regulations, GZE has to invest in the coming years in the area of

- limitation of oils utilization in electricity distribution grid,
- limitation of the risk of soil, air and water contamination,
- limitation of environment pollution risk in case of power transformer damage

Estimated capital expenditures on environmental protection equal to 2,285 thousand PLN (in 1996 constant prices) for the years 1996-2000

3.6 Summary of legal review

The main legal problem facing GZE is unclear ownership status of land and properties of the distribution network. GZE is now in the process of clearing the legal status of land and properties of the distribution network which eventually will lead to acquisition of these assets or conclusion of leasing agreements with the legal owners. The clearing process may take a long time and may require significant cash outlays.

GZE as at December 31st, 1995 was involved in 96 court proceedings, bank conciliatory proceedings and court execution proceedings. Total value of debtors subject to those proceedings was 101,716 thousands PLN.

3.7 Interim indicative valuation

The interim indicative valuation of GZE was prepared by AAP using three methods: adjusted net book value (hereinafter referred to as "ANBV"), discounted cash flow valuation (hereinafter referred to as "DCF") and P/E multiple method.

ANBV valuation was performed based on audited financial statements of GZE as at December 31st, 1995 prepared by GZE in accordance with Polish Accounting Standards. Proposed adjustments to GZE net book value as at December 31st, 1995 were based on high level review of GZE financial statements performed by AAP. Because the applied procedures did not constitute an audit or a review made in accordance with International Standards on Auditing, we did not express any opinion on financial statements referred to above. Calculated adjusted net book value was used in the valuation advisory report for comparison purposes.

Interim indicative discounted cash flows valuation was prepared based on GZE's management financial projections for the years 1996-2001 compiled by AAP. The cost of equity was assumed to stay in the range of 6-10% in real terms. AAP's scope of work did not include either verification of information prepared by the GZE's management or

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appraisal of assumptions underlying the financial projections for the years 1996-2001 prepared by the GZE's management

P/E multiple valuation was calculated based on average net profit margin of GZE for 1993-1995 period and P/E multiple in the range 5.4-9.4

**Table 3.7 Interim Indicative Valuation Of GZE
(thousands PLN)**

	Equity Valuation		Implied P/E		Implied P/BV	
	min	max	min	max	min	max
ANBV	706,975		13.53		1.00	
Multiple method (average)	226,109	393,597	4.32	7.53	0.31	0.56
DCF method	71,813	589,909	1.37	11.29	0.10	0.83

Table 3.7 shows results of the interim indicative valuation of GZE. Implied P/E and P/BV ratios were calculated using 1995 profit figure and adjusted net book value as at December 31st, 1995, i.e. 52,238 and 706,975 thousands PLN respectively.

4. Interim privatization analysis of Energetyka Poznańska S.A. in Poznań ("EP SA")

4.1 Marketing analysis

EP SA is an electricity distribution company and the supplier of electricity to final buyers in three voivodships of Poznań, Piśa and Leszno in the Western part of Poland. The Company serves an area of 20,512 km² which is the second largest among all EDCs. Population in the area amounts to 2.2 million, approaching 5.8% of total population of Poland. Poznań is the second biggest banking center in Poland and a major location for foreign capital investments.

Number of EP SA's customers increased over the period of 1993-1995. The number of customers amounted to 840,345 at the end of 1995, with 88% of them being households and farms.

Table 4.1 Number Of EP SA Customers By Tariffs

	1993	1994	1995
Tariff A - voltage ≥ 110 kV	4	4	6
Tariff B - voltage 1 kV - 60 kV	1,846	1,871	1,914
Tariff C - voltage < 1 kV	93,639	96,246	97,545
Tariff G - households and farms	731,255	737,982	740,637
Tariff R - lump sums	141	246	243
Total number of customers	826,885	836,349	840,345

Average selling prices of EP SA in the years 1993-95 were higher than average selling prices for all EDCs by 10.5-11.8%. Higher average selling prices are caused by relatively high shares of sales to clients under tariffs C and G, who are payers of relatively higher tariffs.

Table 4.2 EP SA Average Price For 1 MWh By Tariffs

		1993	1994	1995
Tariff A	[PLN/MWh]	54.9	74.0	90.5
Tariff B	[PLN/MWh]	69.8	92.6	112.3
Tariff C	[PLN/MWh]	98.9	130.7	161.4
Tariff G	[PLN/MWh]	79.4	104.7	138.6
Tariff R	[PLN/MWh]	125.1	160.4	202.5
EP SA's average selling price	[PLN/MWh]	80.0	106.4	133.0
All EDCs' average selling price	[PLN/MWh]	72.4	96.1	119.0
Average purchase price	[PLN/MWh]	44.7	68.7	74.1

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The breakdown of EP SA's sales mix is disclosed in Table 4.3. Sales are evenly spread over industry and households and farms which represented more than 30% of sales. Despite the slump in the volume of sales in 1995, the management of EP SA believes that sales volume will grow in the years 1996-1998 by 2.5-4.4% a year due to expected fast growth of the economy in the region.

Table 4.3 EP SA electricity sales structure

		1993		1994		1995	
Electricity sold	[GWh]	4,478	100.0%	4,727	100.0%	4,524	100.0%
Index	[%]	N/A		105.6		95.7	
Industry	[GWh]	1,406	31.4%	1,481	31.3%	1,563	34.5%
Railway	[GWh]	255	5.7%	254	5.4%	258	5.7%
Households	[GWh]	1,283	28.7%	1,367	28.9%	1,191	26.3%
Farms	[GWh]	434	9.7%	411	8.7%	347	7.7%
Other customers	[GWh]	1,100	24.5%	1,214	25.7%	1,165	25.8%

Table 4.4 presents electricity balance of EP SA. More than 99% of electricity is purchased from PSE with the remaining 1.0% is purchased directly from industrial power generators and water power stations. Electricity loss factor of EP SA is very high.

Table 4.4 EP SA electricity balance

		1993	1994	1995
Electricity purchases, incl	[GWh]	5,732	5,656	5,719
PSE	[GWh]	5,685	5,607	5,663
Industrial power stations	[GWh]	27	21	24
Small hydro power stations	[GWh]	3	2	3
Own hydro power station	[GWh]	17	26	29
Electricity sales	[GWh]	4,478	4,727	4,524
Electricity losses	[GWh]	1,254	929	1,195
<i>Loss factor</i>	[%]	21.88	16.43	20.90

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4.2 Financial analysis

Basic financial data for the period 1993-1995 is presented in Table 4.5 below

Table 4.5 EP SA Financial Data
(thousands PLN)

For the year	1993	1994	1995
Income statement			
Sales	364,907	510,539	611,758
Electricity sales	358,343	502,935	601,619
Other sales	6,564	7,604	10,139
Gross Profit	108,124	121,495	159,218
EBIT	36,217	35,521	33,940
Net profit after tax	27,138	28,160	30,080
Balance sheet			
Fixed assets	191,466	209,763	716,453
Current assets	51,474	75,551	86,971
Total assets	242,940	285,360	803,511
Current liabilities, including	42,401	64,557	70,723
Trade creditors	32,180	40,300	50,342
Net working capital	19,294	35,251	36,629
Debt	-	6,000	6,000
Equity	197,878	211,754	723,627
Profitability measures			
Gross profit margin	29.6%	23.8%	26.0%
Net profit margin	7.4%	5.5%	4.9%
ROA	11.2%	9.9%	3.7%
ROE	13.7%	13.3%	4.2%
Liquidity ratios.			
Current ratio	1.60	1.87	1.73
Quick ratio	1.57	1.84	1.70
Turnover ratios (in days):			
Debtors turnover ratio	36.2	37.7	26.4
Creditors turnover ratio	45.7	37.8	40.6
Cash turnover ratio	4.9	7.9	15.8
Debt leverage	0%	3%	1%

EP SA financial situation in the years 1993-1995 was varying due to changes in margin on electricity distribution. The pattern of changes was similar to those in GZE. Increases in prices of coal in 1994 caused increase of the purchase price from PSE of 53.7%, which was far above 1994 inflation. As a result margin on distribution of electricity decreased from 28.5% in 1993 to 22.7% in 1994. In 1995 margin on electricity distribution increased to 24.9% due to 25.0% rise in the average selling prices accompanied by only

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7.9% increase in the purchase price. The low increase in purchase price was due to appreciation of Polish z³oty which weakened the pace of growth in coal prices based on the United States dollar parity.

Changes in ROE (or ROCE) were caused by changes in net profit margin and changes in assets turnover. EP SA revalued its fixed assets 2.5 times as at January 1st, 1995 (see section 3.2). Excluding the effects of fixed assets revaluation, ROE in 1995 was lower than ROE in 1993 by 7.3%.

EP SA's operating costs structure changed during the years 1993-1995 due to spin-offs of auxiliary activities and transfer of employment to subsidiaries. Depreciation of fixed assets increased significantly in 1995 due to revaluation of fixed assets. The average depreciation ratio of EP SA's fixed assets equals to 8.8% as at December 31st, 1995 with machinery and equipment being the most depreciated group of fixed assets. This ratio does not reflect appropriate worn-off of fixed assets due to applied netting off (see section 3.2).

4.3 Summary of technical analysis

The condition of distribution network owned by EP SA varies with regards to the age and technological advancement of the equipment installed. The low voltage grid is in the worst condition.

Table 4.6 Technical Data On Distribution Grid

Distribution grid:

High voltage 110kV	km	1 465
Medium voltage 15-60kV	km	17 313
Low voltage	km	20 560

Distribution stations

GPZ 110kV	units	69
Medium voltage	units	12 039

The level of electricity losses in EP SA is one of the largest among all EDCs. EP SA distribute and supply electricity over the large area mainly through the low- and medium-voltage grids. Part of electricity losses are attributable to technical standing of these grids and part to illegal consumption of electricity.

The main goal of EP SA investment program is to modernize the existing distribution network in order to improve quality and reliability of services to the final buyers. Major capital expenditures are set for reconstruction of the low- and medium voltage networks and creation of a functional management information system.

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EP SA is considering an independent power project to be constructed in years 1998-2000 and commencing its operations in 2001

4.4 Summary of organizational analysis

In the years 1989-1995 EP SA has spun-off its auxiliary activities. EP SA operates in a form of the holding company controlling 11 limited liability companies rendering services to EP SA and external customers. EP SA holds from 43.7% to 100.0% of shares in subsidiaries with remaining shareholders being PSE, other EDCs and not-related companies.

Employment in EP SA decreased over the years 1993-1995 from 2,252 persons at the end of 1993 to 2,099 persons at the end of 1995 due to the restructuring process. There are no further plans to alternate the structure of employment in the next few years. The majority of employees have technical educational backgrounds, 56% of employees are less than 40 years old and 50% of employees have worked in EP SA for more than 10 years.

4.5 Summary of environmental analysis

EP SA will have to spend on environmental protection 33,300 thousand PLN (in 1996 constant prices) during the years 1996-2000. Special attention will have to be paid to the following areas:

- limitation of oil usage and potential soil damage due to leakages,
- installation of conductors insulation,
- limitation of air pollution,
- workplace safety improvement,
- co-ordination of environmental activities and support for local authorities

4.6 Summary of legal review

The main legal problem facing EP SA is unclear ownership status of land and properties of the distribution network. EP SA is now in the process of clearing the legal status of land and properties of the distribution network which eventually will lead to acquisition of these assets or conclusion of leasing agreements with the legal owners. The clearing process may take a long time and may require significant cash outlays.

EP SA as at December 31st, 1996 was involved in 152 court proceedings, bank conciliatory proceedings and court execution proceedings. Total value of debtors subject to those proceedings was 5,145 thousands PLN.

4.7 Interim indicative valuation

The interim indicative valuation of EP SA was prepared by AAP using three methods: adjusted net book value, discounted cash flow valuation and P/E multiple method.

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ANBV valuation was performed based on audited financial statements of EP SA as at December 31st, 1995 prepared by EP SA in accordance with Polish Accounting Standards. Proposed adjustments to EP SA net book value as at December 31st, 1995 were based on high level review of EP SA financial statements performed by AAP. Because the applied procedures did not constitute an audit or a review made in accordance with International Standards on Auditing, we did not express any opinion on financial statements referred to above. Calculated adjusted net book value was used in the valuation advisory report for comparison purposes.

Interim indicative discounted cash flow valuation was prepared based on EP SA's management financial projections for the years 1996-2001 compiled by AAP. The cost of equity was assumed to stay in the range of 6-10% in real terms. AAP's scope of work did not include either verification of information prepared by the EP SA's management or appraisal of assumptions underlying the financial projections for the years 1996-2001 prepared by the EP SA's management.

P/E multiple valuation was calculated based on average net profit margin of EP SA for 1993-1995 period and P/E multiple in the range 5.4-9.4.

**Table 4.7 Interim Indicative Valuation Of EP SA
(thousands PLN)**

	Equity Valuation		Implied P/E		Implied P/BV	
	min	max	min	max	min	max
ANBV	714,374		23.75		1.00	
Multiple method (average)	196,790	342,560	6.54	11.38	0.28	0.48
DCF	277,097	725,968	9.21	24.13	0.39	1.02

Table 4.7 shows results of the interim indicative valuation of EP SA. Implied P/E and P/BV ratios have been calculated using 1995 profit and adjusted net book value as at December 31st, 1995, i.e. 30,080 and 714,374 thousands PLN respectively. The value of implied P/E ratio for the multiple method above 9.4 is caused by higher value of average net profit for 1993-1995 in comparison to 1995 figure.

5. Interim privatization analysis of Zak³ad Energetyczny Toruń S.A. in Toruń ("ZET")

5.1 Marketing analysis

ZET is an electricity distribution company and the supplier of electricity to final buyers in two voivodships of Toruń and W³oc³awek in the Central Poland. The Company serves an area of 9,750 km². Population in the area amounts to 1.1 million, approaching 2.9% of total population of Poland.

The number of customers is growing very slowly and amounted to 392,046 in 1995. More than 90% are households and farms.

Table 5.1 Number Of ZET Customers By Tariffs

	1993	1994	1995
Tariff A - voltage ≥ 110 kV	8	8	8
Tariff B - voltage 1 kV - 60 kV	652	636	563
Tariff C - voltage < 1 kV	35,020	35,800	36,480
Tariff G - households and farms	350,635	353,017	354,820
Tariff R - lump sums	104	180	175
Total number of customers	386,419	389,641	392,046

Average selling prices of ZET in years 1993-1995 were slightly higher than average selling prices for all EDCs. Higher average selling prices are caused by a relatively high share of little and medium size companies in ZET's sales mix.

Table 5.2 ZET Average Price For 1 MWh By Tariffs

		1993	1994	1995
Tariff A	[PLN/MWh]	52.1	71.2	86.7
Tariff B	[PLN/MWh]	69.0	92.4	109.8
Tariff C	[PLN/MWh]	100.7	133.8	161.7
Tariff G	[PLN/MWh]	80.2	105.7	139.2
Tariff R	[PLN/MWh]	130.1	185.6	216.2
ZET's average selling price	[PLN/MWh]	72.6	97.5	120.9
All EDCs' average selling price	[PLN/MWh]	72.4	96.1	119.0
Average purchase price	[PLN/MWh]	49.0	66.6	75.8

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ZET's sales mix is disclosed in Table 5.3. Sales mix is dominated in terms of volume by eight industrial customers and households and farms. ZET's sales mix may change in the next few years as a consequence of the Government's plans to introduce special incentives (e.g. tax reliefs) for investors to stimulate economic development of the area. Economic growth of the area may lead to increase in consumption of electricity.

Table 5.3 ZET Electricity Sales Structure

		1993		1994		1995	
Electricity sold	[GWh]	2,490	100.0%	2,339	100.0%	2,383	100.0%
Index	[%]	N/A		93.9		101.9	
Tariff A - 8 customers	[GWh]	734	29.5%	653	27.9%	682	28.6%
Tariff B	[GWh]	507	20.4%	469	20.1%	493	20.7%
Railway	[GWh]	72	2.9%	89	3.8%	90	3.8%
Households	[GWh]	466	18.7%	470	20.1%	453	19.0%
Farms	[GWh]	271	10.9%	257	11.0%	235	9.9%
Other customers		440	17.6%	401	17.1%	430	18.0%

Table 5.4 presents the electricity balance of ZET. Although PSE supplies large majority of electricity, approximately 15% is generated by the water power plant in W³oc³awek owned by ZET. The Company is also a net supplier of electricity to other EDCs.

Table 5.4 ZET Electricity Balance

		1993	1994	1995
Electricity purchases, incl	GWh	4,520	4,373	4,421
PSE	GWh	2,780	2,621	2,566
EDCs	GWh	1,084	1,008	1,082
Industrial power stations	GWh	25	21	18
Small hydro power stations	GWh	1	3	3
Hydro power plant in - W ³ oc ³ awek	GWh	630	720	752
Electricity sales, incl	GWh	4,017	3,896	3,954
Local customers	GWh	2,490	2,339	2,383
EDCs	GWh	1,527	1,557	1,571
Electricity losses	GWh	503	477	467
<i>Loss factor</i>	%	11.13%	10.91%	10.56%

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5.2 Financial analysis

Basic financial data for the period 1993-1995 is presented in Table 5.5 below.

Table 5.5 ZET Financial Data
(thousands PLN)

For the year	1993	1994	1995
Income statement			
Sales	192,012	250,185	303,449
Electricity sales	180,792	228,125	288,124
Other sales	11,220	22,060	15,325
Gross Profit	75,987	73,924	104,406
EBIT	25,086	10,675	20,492
Net profit after tax	16,884	5,459	11,117
Balance sheet			
Fixed assets	101,659	118,940	468,367
Current assets	35,259	32,186	38,883
Total assets	136,918	151,777	508,389
Current liabilities, including	16,603	22,627	26,917
Trade creditors	12,672	20,013	23,473
Net working capital	22,587	12,173	15,410
Debt	-	6,060	2,862
Equity	116,536	119,478	471,157
Profitability measures			
Gross profit margin	39.6%	29.5%	34.4%
Net profit margin	8.8%	2.2%	3.7%
ROA	12.3%	3.6%	2.2%
ROE	14.5%	4.6%	2.4%
Liquidity ratios:			
Current ratio	2.78	1.64	1.57
Quick ratio	2.67	1.54	1.44
Turnover ratios (in days):			
Debtors turnover ratio	46.4	29.4	28.0
Creditors turnover ratio	31.3	34.6	38.5
Cash turnover ratio	9.8	3.6	5.8
Debt leverage	0%	5%	1%

ZET financial performance varied significantly over past few years due to changes in margin on electricity distribution and problems with debtors collection. Margin on electricity distribution was changing as a consequence of different settlement systems with PSE in relation to power and electricity generated by the water power plant in W³oc³awek.

(hereinafter referred to as "W³oc³awek") as well as changes in factors discussed for GZE and EP SA

During the period 1993-1995 there existed two distinct settlement systems with PSE for power and electricity generated by W³oc³awek Under the first regime the power and electricity from W³oc³awek was contracted separately by PSE and resold back at margin to ZET Under the second regime ZET contracted power and electricity directly with W³oc³awek preserving high margin on production of electricity

The unfavorable movements of the purchase price and selling prices in 1994 as well as the unfavorable settlement system with PSE which transferred profits on generation from ZET, adversely affected financial results of ZET in that year ZET suffered liquidity problems which were overcome by improving working capital management and increasing leverage In 1995 lower increases of the purchase price of electricity in comparison to increases of selling prices accompanied by re-establishment of the second settlement regime with PSE increased ZET's margin on distribution of electricity The existence of W³oc³awek adds significant value to ZET's operations.

Average depreciation ratio of ZET's fixed assets equals to 3.4% as at December 31st, 1995 with machinery and equipment being the most depreciated group of fixed assets This ratio does not reflect appropriate depreciation due to netting off (see section 3.3)

5.3 Summary of technical analysis

The condition of the distribution network owned by ZET varies significantly with regards to the age of equipment installed and its technical development Similarly to GZE and EP SA low voltage network is in the worst condition. Condition of the water power plant in W³oc³awek is satisfactory Table 5.6 contains basic technical data on ZET's distribution grid

Table 5.6 Technical Data On Distribution Grid

Distribution grid:

High voltage 110kV	km	988
Medium voltage 15-60kV	km	9 666
Low voltage	km	14 995

Distribution stations

Medium voltage 110/15kV	units	32
Low voltage	units	8 280

The aim of ZET's investment program is modernization of distribution network in order to improve quality and reliability of services for the final buyers with special attention paid to

reconstruction of the low voltage network and distribution stations Other capital expenditure plans relate to integration of local computer networks.

5 4 Summary of organizational analysis

In 1993 ZET started the process of spinning-off auxiliary activities in order to rationalize the structure of the company The heating plant Grudzi'dz in January 1993 and "Energohandel" in March 1996 were set-up with ZET's capital interest.

Employment in ZET increased in the years 1993-1995 from 1,654 to 1,721 persons due to implementation of new debtors collection system and setting up new departments Approximately 6 5% of ZET employees have university degrees, 60% of employees are below 40 years old and 42 % of employees have worked in ZET for more than 10 years

5 5 Summary of environmental analysis

ZET will need to invest in several projects in order to satisfy environmental requirements in the field of

- limitation of oils utilization in network,
- limitation of the risk of soil contamination with oils and electrolytes,
- limitation of air and water pollution connected with activities of heating plant Grudzi'dz,
- improvement of workplace safety,
- support of the local initiatives aimed at elimination of the sources of environmental pollution

5 6 Summary of legal review

The main legal problem facing ZET similarly to GZE and EP SA is unclear ownership status of land and properties of the distribution network ZET is in the process of clearing the legal status of land and properties of the distribution network which eventually will lead to acquisition of these assets or conclusion of leasing agreements with its legal owners The clearing process may take a long time and may require significant cash outlays.

ZET as at 31 December 1996 was involved in 162 court proceedings, bank conciliatory proceedings and execution proceedings Total value of debtors subject to those proceedings was 8,213 thousands PLN

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5.7 Interim indicative valuation

The interim indicative valuation of ZET was prepared by AAP using three methods adjusted net book value, discounted cash flow valuation and P/E multiples method

ANBV valuation was performed based on audited financial statements of ZET as at December 31st, 1995 prepared by ZET in accordance with Polish Accounting Standards Proposed adjustments to ZET's net book value as at December 31st, 1995 were based on high level review of ZET financial statements performed by AAP. Because the applied procedures did not constitute an audit or a review made in accordance with International Standards on Auditing, we did not express any opinion on financial statements referred to above Calculated adjusted net book value was used in the valuation advisory report for comparison purposes

Interim indicative discounted cash flows valuation was prepared based on ZET's management financial projections for the years 1996-2001 compiled by AAP The cost of equity was assumed to stay in the range of 5.1-8.5% in real terms Real cost of equity for ZET was adjusted in comparison to GZE and EP SA to reflect more vertically integrated character of ZET's business. Scope of work of AAP did not include either verification of information prepared by the ZET's management or appraisal of assumptions underlying the financial projections for the years 1996-2001 prepared by the ZET's management.

P/E multiple valuation was calculated based on average net profit margin of ZET for 1993-1995 period and P/E multiple in the range 7.4-11.4. P/E multiple for ZET was adjusted accordingly as the real rate of return.

**Table 5.7 Interim indicative valuation of ZET
(thousands PLN)**

	Equity Valuation		Implied P/E		Implied P/BV	
	min	max	min	max	min	max
ANBV		466,963		42.00		1.00
Multiple method (average)	110,802	170,695	9.97	15.35	0.23	0.37
DCF method	211,618	626,799	19.04	56.38	0.45	1.34

Table 5.7 shows results of the interim indicative valuation of ZET Implied P/E and P/BV ratios were calculated using 1995 profit and adjusted net book value as at December 31st, 1995, i.e. 11,117 and 466,963 thousands PLN respectively The value of implied P/E ratio for the multiple method above 11.4 is caused by higher average net profit figures for 1993-1995 than for 1995

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The interim indicative valuation of ZET gives relatively higher results in terms of implied P/E and P/BV ratios than valuation of GZE or EP SA. Main reasons for higher results comprise assessment of lower risk of the business and the significant value added by the water power plant in W³oc³awek

6. Determinants of the privatization process

6.1 General remarks

The privatization process of EDCs will depend on objectives set for the process by the Government, level of interest in privatization expressed by the management and employees of companies and potential benefits perceived by prospective investors based on assessment of inherent risks and potential returns of the business environment.

6.2 The State Treasury

Privatization process of EDCs should be viewed in the perspective of demonopolization and privatization strategy for the whole electricity sector as envisaged by the Government. Main objectives set forth in documents prepared by MPiH include demonopolization and creation of competitive electricity market in 3-4 years time horizon, bringing in foreign capital adequate to finance capital needs of the sector, transferring know how in the field of state-of-the-art technology, environmental protection, finance and management and last but not least receiving appropriate income from the sale of shares in the companies.

At the same time the State Treasury may not be willing to accept loss of control over the distribution of electricity because of the importance of the sector to Polish economy. Electricity prices play an important role in stimulating growth of the economy. Low prices lead to waste of energy while high prices may slow down the growth. Increases in electricity prices affect inflation which is one of key economic factors. Privatization of the electricity sector may also have the widespread impact on the coal mining industry reducing Government resources to balance the restructuring process. Therefore it is likely that the Government would like to keep some tools enabling control over the activities of the EDCs at least in the transition period (next 3-5 years), including as examples a "golden share", detailed profitability measures based on RPI-x or IRR formulas, imposing limits on electricity prices or specific legal constraints for the sector.

There is lack of agreement among political parties on the level of demonopolization and privatization of the sector. Certain parties do not agree with changes in the role of electricity sector within Polish economy, introduction of market mechanisms and third party access to the power grid. Political frictions may delay in fact the process until the new parliamentary elections in 1997.

6.3 Employees

Lack of employees' understanding or consent on privatization may significantly complicate the whole process and eventually stop it. Trade unions would like to combine privatization of the electricity sector with reforms of the social care system. Privatization of EDCs has to bring benefits to employees. The new privatization law which will entitle employees to

15% of shares free of any charge is the important step facilitating ownership transformations

6.4 Business environment

Assessment of inherent risks and potential returns of the business environment should take into account a couple of factors. Firstly, the existing level of electricity prices for the final customers is not justified economically. The rate of returns achieved by EDCs and the electricity sector as a whole are below the cost of capital.

Secondly, the Government plans to implement changes to the sector that may materially affect the operating environment of the companies. The direction and timing of these changes is not clear yet. Business risks may be even higher due to:

- the policy of profit redistribution and equalization throughout the electricity sector,
- planned increases in the years 1996-1998 of VAT from 12% to 22% leading to a decrease of net selling prices in real terms,
- the policy of subsidizing households tariffs,
- potential increases of prices of coal.

Thirdly, the existing Energy Law is out-dated and does not suit the needs of the sector. Lack of or delay in the new energy law may discourage potential investors and question the privatization process. The risk is enhanced by unclear legal status of land and properties of EDCs which requires time-consuming and expensive legal proceedings to be undertaken.

Fourthly, there are specific risk factors tied individually to EDCs which may affect evaluation of investments by potential investors. In case of GZE this may be the region of Upper Silesia dominated by declining industries or expected large capital expenditure on integrated information system. In case of ZET this may be W³oc³awek water power plant.

7. Privatization strategy

7.1 Two stages of the privatization process

The privatization strategy of EDCs should be split into two stages in order to accelerate the process of transformation and allow for highest possible income of the State Treasury from sale of shares in the longer terms. Two-stage privatization process should be bound to the demonopolization and privatization strategy for the sector prepared by the MPiH and medium-term business plans for the EDCs for the years 1996-2000 prepared by their management boards.

Assuming enactment of the new energy law by the Parliament at the end of 1996, the first stage of the privatization process should take place in 1997. The realization of the second stage would depend on the changes in the sector and according to current plans of MPiH, the second stage would be implemented 3-4 years after the first stage.

Privatization strategies of GZE, EP SA and ZET assume that after the first stage of the privatization process the State Treasury will preserve effective control over the privatized EDCs since it will retain the highest individual stake in EDCs (although not necessarily a majority stake). This should facilitate the restructuring process by avoiding potential fears of losing governmental control over the sector. Potential strategic investors will have to negotiate with the State Treasury. Management boards of EDCs will prepare the medium-term business plans that will ensure continuity of management efforts and ease the implementation of the process during the transition phase.

Due to significant uncertainties and risks facing the electricity sector described earlier, it may be impossible for the State Treasury to achieve satisfactory selling prices for share in the first stage of privatization. We may expect that in the second stage the State Treasury will be able to achieve higher selling prices due to expected changes in the electricity sector, economically justified electricity prices, new energy law, effective demonopolization and potential improvement of financial standing of EDCs.

7.2 The first stage of the privatization process

Table 7.2 presents proposed ownership structure of EDCs after the first stage of the privatization.

Table 7.1 Proposed ownership structure of EDCs after the first stage of privatization

	GZE	EP SA	ZET
Strategic investor	10%	15%	10%
Public offer (WSE)	35%	20%	30%
Employees	15%	15%	15%
Management	2%	-	2%
State Treasury	38%	50%	43%

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EDCs shares would be quoted on the Warsaw Stock Exchange (“WSE”) Public offerings would be directed to individual and large institutional investors A strategic investor would acquire EDCs shares in a public tender or as part of an initial public offering Shares for employees would be distributed free of charge in accordance with the new privatization law

The State Treasury will retain significant stakes in EDCs after the first stage of the privatization process In GZE and ZET it will retain the largest minority stake providing effective control over the companies EP SA will not be fully privatized in the first stage and the State Treasury will retain at least 50% of its shares.

7.3 The second stage of the privatization process

Table 7.2 presents proposed ownership structure of EDCs after the second stage of the privatization.

Table 7.2 Proposed ownership structure of EDCs after the second stage of privatization

	GZE	EP SA	ZET
Strategic investor	10%	18%	10%
Free float	53%	53.5%	53%
Employees	15%	13.5%	15%
Management	2%	-	2%
State Treasury	15%	15%	15%
Local authorities	5%	-	5%

In the second stage the State Treasury will sell all its shares except for 15% of shares retained as a reprivatization and pension funds reserve EP SA would consider to issue new shares to raise funds to finance a projected independent power project Shares sold in the second stage will be offered to strategic investors and/or to the public and/or by tender to a selected financial investors

7.4 Prospective investors

Strategic investors may wish to acquire EDCs shares to position themselves on the Polish market with a small capital interest, and to wait for future developments or to benefit from sales of technology, information systems and know-how Acquisition of initial stakes would not give the strategic investors control over EDCs The investors will need to cooperate with the State Treasury and the management boards to implement any changes until the second stage of the privatization process.

Prospective small shareholders may be interested in diversification of their stock-holdings by acquiring shares in mature businesses with potentially stable profitability and dividends. Prospective institutional investors may be more interested in long-term returns

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and the overall size of the stock market. Acquisition of EDCs shares would offer them an opportunity to diversify their stock portfolios

According to the new privatization law employees are entitled to 15% of shares free of any charge. Shares will be distributed based on rules set internally by the employees following the guidances provided by the new privatization law. Sale of shares to management apart from shares available from employees' tranche should be accompanied by signing of management contracts and preparation of business plans which would create the basis for subsequent review of EDCs performance. Management contracts will stimulate effectiveness through linkage of management remuneration with results of the companies. Number of shares sold to management will depend on valuation of EDCs and available financing.

Local authorities may acquire shares from the State Treasury as a compensation for land and properties transferred to EDCs for free. Distribution of shares between the local authorities should be based on analysis of their strategic importance and actions required to clarify legal status of land and properties.

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