

The Polish Electricity Market Investment Context

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Working Paper #31

August 2004

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This paper is part of the wider Program on Energy and Sustainable Development study on the historical experience of Independent Power Producers (IPPs) in countries that are in the midst of transforming the industrial organization of their electric power sectors. The study seeks to explain the patterns of investment in IPPs and the variation in IPP experiences. The aim is not only to assess the historical record accurately but also to chart possible future paths for the IPP mode of power sector investment. This paper follows the research methods and guidelines laid out in the project's research protocol.¹

Although Poland has limited experience with greenfield foreign direct investment in its power sector, it is an important country to study for several reasons. First, we can observe the effect of expected future market liberalization on the incentives to build and operate IPPs, as all of Poland's IPPs were built during a period when it was clear that Poland would be required to open up its power sector for competition as a condition of EU accession.

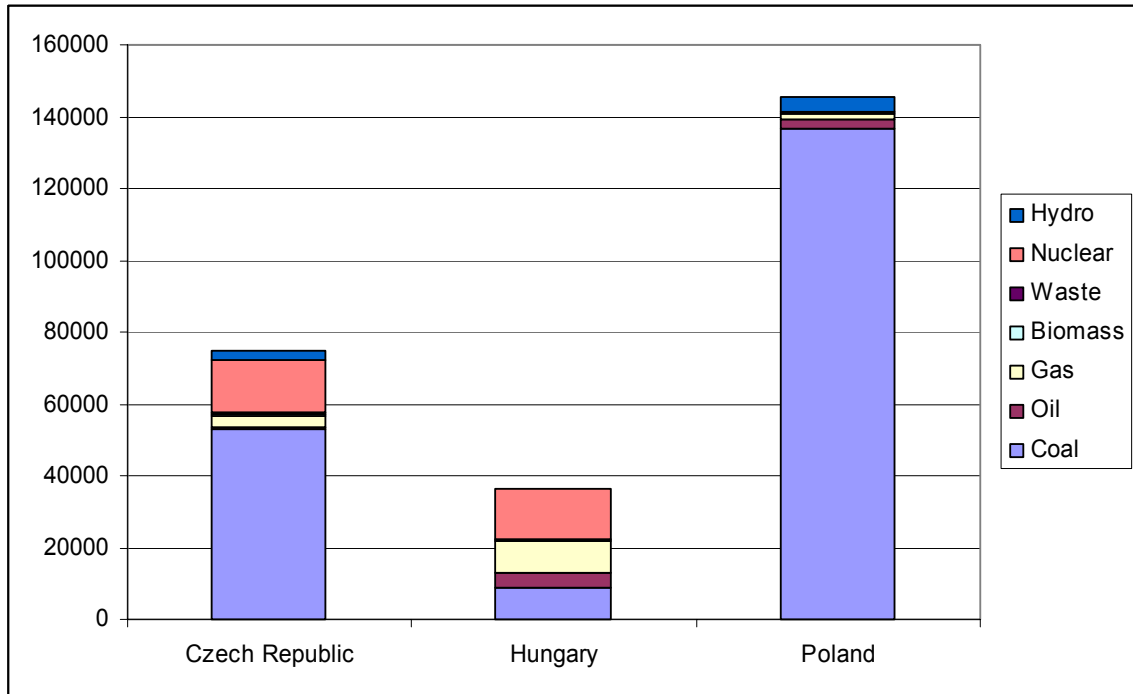
Second, Poland was a centrally planned economy whose people are accustomed to expansive social programs. This could potentially complicate business if companies were expected to provide a host of social benefits for employees, or if they were forbidden to deploy flexible labor policies. Coal miners' unions, in particular, are well organized and powerful. Moreover, several nationalistic political parties in Poland are calling for more state intervention in Poland's economy. It will be important to investigate the effectiveness of the different tactics project sponsors (generally foreign companies) use to cope with this unfamiliar environment.

Third, Poland is an excellent laboratory for examining how a new fuel competes against the incumbent. Currently around 95% of the electricity generated in Poland comes from burning coal, which has brought a host of environmental problems including air pollution, water pollution from the dumping of saline water associated with coal mining, and solid waste from coal mines and power plants. The adverse environmental impacts of coal have made gas very attractive.

In terms of IPP history, fuel context, and economic and political environment, Poland is not unique among the countries of Eastern Europe. All three EU accession countries in Eastern Europe—Poland, the Czech Republic and Hungary—are formerly centrally planned economies that are in the midst of liberalizing their power sectors. As seen in Figure 1, both Poland and the Czech Republic rely primarily on coal for electric power generation. We selected Poland for study because it is the largest market and because coal is an entrenched incumbent.

¹ Victor, et al (2004). "The Experience with Independent Power Projects in Developing Countries: Introduction and Case Study Methods", PESD Working Paper #23, available at <http://pesd.stanford.edu/publications/workingpapers.html>.

Figure 1: Electricity Production in GWh, by Fuel (2001)



Source: IEA

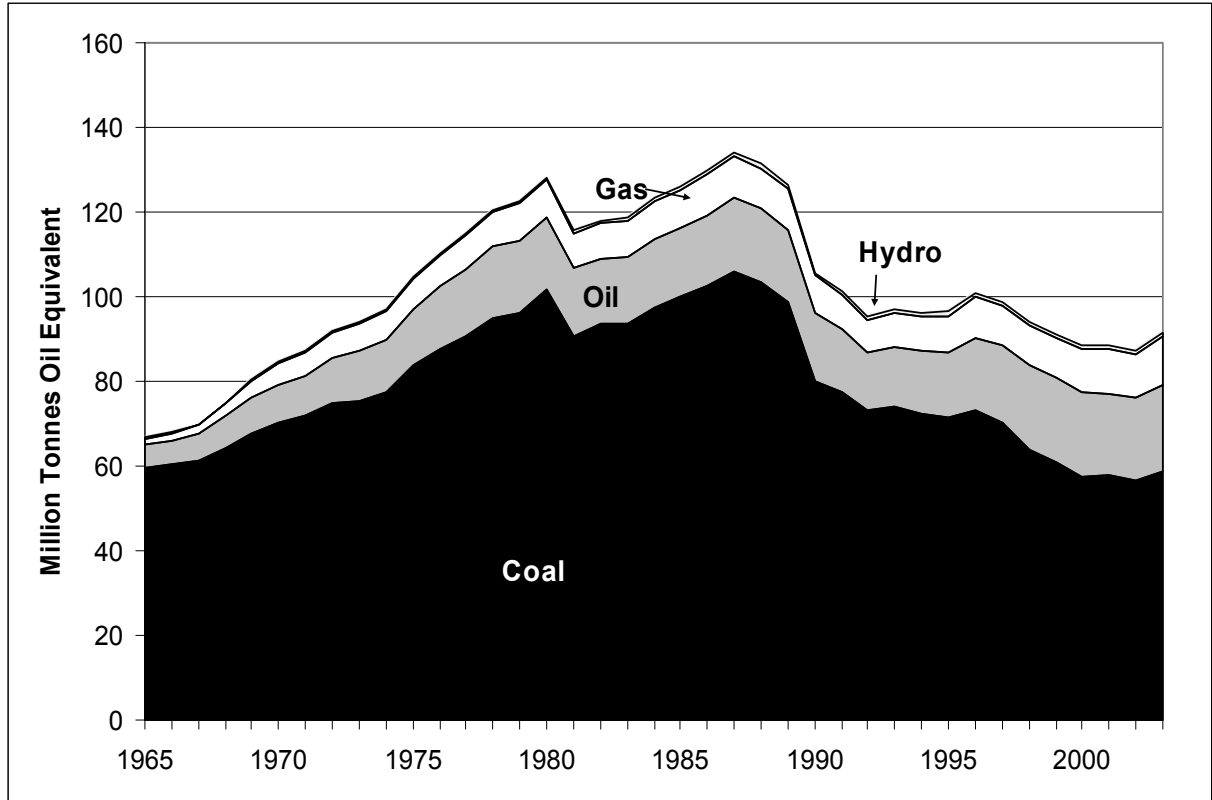
This paper first gives an overview of the Polish energy context and details the electricity reform process that began in the early 1990s. The second section gives an overview of the general investment climate in Poland, and pays particular attention to the macroeconomic and fiscal policies of the government, the pervasiveness of corruption and the strength of the rule of law, and the political environment. These are the factors that would have an impact on all foreign investment in Poland, and must be understood in order to make a robust analysis of the factors that affect the success of Polish IPPs. The third section introduces the universe of Polish IPPs, and outlines some of the important factors we think affect outcomes.

The Polish Electricity Market

Figure 2 below shows total primary energy consumption in Poland by fuel since 1965 and illustrates the degree to which coal dominates the domestic energy picture. Poland has significant reserves of high quality coal and is one of the most coal-dependent countries in the world. Throughout the 1990s, Poland was a net exporter of coal.²

² EIA (2003). An Energy Overview of the Republic of Poland. EIA (Washington, D.C.) Available at <http://www.fe.doe.gov/international/plndover.html>.

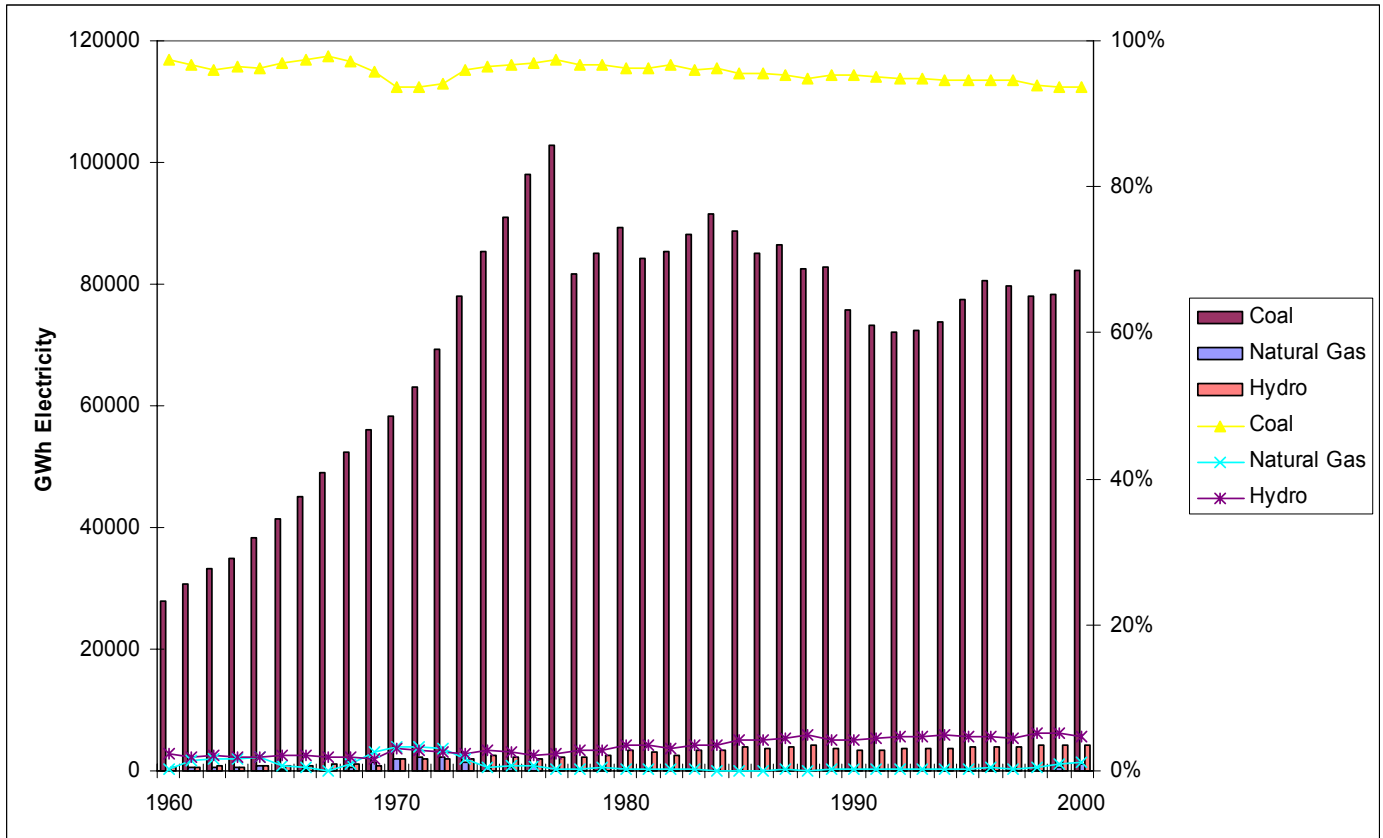
Figure 2: Polish Primary Energy Consumption



Source: BP Statistical Review of World Energy 2004

Not surprisingly, Poland is almost 100% dependent on coal for electricity generation. The left-hand axis (and bar chart) in Figure 3 below shows the amount of electricity generated in Poland by fuel since 1960, and the right axis shows the amount of electricity generated by each fuel as a percent of the total.

Figure 3: Electricity Generation in Poland by Fuel in GWh and as Percent of Total



Source: IEA

Total consumption of electricity Poland over the past decade (and indeed over the past 25 years) has been relatively flat, owing to more efficient use and a shift in the structure of the economy away from industry and towards services. Industry's share of GDP has declined from 40% in the late 1980s to 24% in 2001³, and energy intensity fell 36% between 1989 and 2001.⁴

The Polish power grid has interconnections to adjoining countries, and is a member of several regional transmission organizations, including CENTREL (comprising Ukraine, Poland, Hungary, Czech Republic, and Slovakia) and UCPTÉ (the Western European system). In 2000 transmission and distribution and non-technical losses amounted to 9.94% of the total power supplied—an amount slightly higher than found in most industrialized countries but lower than most of the other countries in the

³ Economist Intelligence Unit (2003). *Poland Country Profile 2003*. The Economist Intelligence Unit (London).

⁴ EIA (2003a). "Poland: Environmental Issues." EIA (Washington, D.C.) Available at <http://www.eia.doe.gov/emeu/cabs/polenv.html>.

wider IPP study.⁵ Poland also has a comfortable surplus of installed generating capacity—over 40% in 2001—but much of that capacity is of low quality.⁶ There is a shortage of peak-load capacity; pumped hydroelectric storage covers 30-40% of peak demand, but the remainder must be met through adjustments of imports and exports and through adjusting the operations of baseload plants.⁷ Poland has been a net exporter of electricity since 1990. Table 1 below shows electricity imports and exports in Poland since 1990.

Table 1: Electricity Imports and Exports in Billion kWh

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Net Generation	128.5	127.2	125.4	126.4	127.8	131.2	135.2	135.0	133.0	132.2	135.2	135.0
Net Consumption	118.5	115.7	112.3	115.1	116.2	119.3	122.6	123.4	120.2	118.0	119.4	118.8
Imports	10.4	6.7	4.8	5.6	4.6	4.4	4.8	5.4	4.6	3.5	3.3	4.3
Exports	11.5	9.3	9.1	8.0	7.2	7.2	7.9	7.5	8.1	8.4	9.7	11.0

Source: EIA

Industry History

Before 1987, the Polish electricity sector consisted of five regional vertically integrated State Owned Enterprises (SOEs). Between 1987 and 1990, the government created the Electricity and Brown Coal Board (WEWB)—an SOE in charge of 28 generation companies, 33 distribution companies, four coal mines, and assorted other businesses. WEWB was dissolved in 1990 and the Polish Power Grid Company (PSE) was created. PSE—a state-owned joint stock company (JSC)—continues to own and operate the national transmission grid and the four regional dispatch centers.

With the fall of communism in the late 80s, Poland began a program of rapid economic reform—dubbed “shock therapy” by its creators—that included adjustments to correct the distortions in heat and electricity tariffs. Under central planning, prices had no relation to the true costs of providing electricity. In 1990 electricity prices were

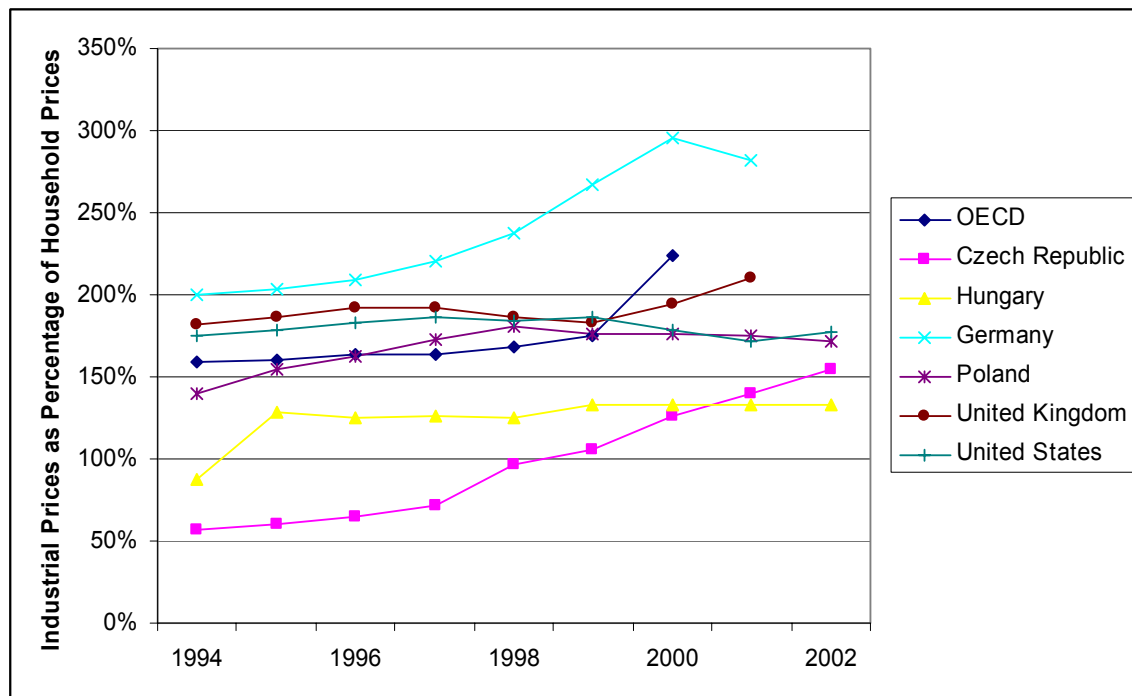
⁵ World Bank Development Indicators, 2003. For example, losses in 2000 in other countries in the IPP study were China (6%), India (26%), Mexico (14%), Brazil (18%), Thailand (8%), Turkey (19%), Argentina (13%), the Philippines (14%), and Malaysia (8%). For comparison, U.S. losses were 6%.

⁶ OECD (2002). “The Energy and Postal Sectors,” in *OECD Reviews of Regulatory Reform: Regulatory Reform in Poland*. Available at <http://www.oecd.org/regreform/backgroundreports>.

⁷ OECD (2002)

increased 3.5 and 4 fold for industrial and residential customers, respectively.⁸ Subsequent tariff adjustments were made primarily to account for inflation. Figure 4 below shows residential electricity prices as a percentage of industrial prices in Poland and several OECD countries (as well as the OECD average). While the data does not capture the absolute price increases that happened in the early 1990s, it shows that by the time Poland opened its electricity market for IPP investment in 1997, the relationship between household and industrial prices had come into line with OECD norms. This process of tariff rationalization is one of the most difficult, yet most integral, parts of liberalizing energy markets.

Figure 4: Household Electricity Prices as a Percent of Industrial Prices in Select OECD Countries, 1994-2002



Source: EIA

Sector unbundling effectively began in 1993 with the passage of a law that enabled the Ministry of Industry and Trade to carry out the “commercialization” of the electricity and coal sectors. All 19 of Poland’s existing combined heat and power (CHP) plants were registered as JSCs, and district heat distribution companies were transferred to the local governments. The most significant development was the emergence of PSE as a key sector participant. In addition to its grid management responsibilities, it became the single buyer of electricity. PSE signed long-term contracts with the generating companies

⁸ OECD (2002)

during this period. These contracts, in turn, allowed generators to secure banks loans needed for plant upgrades.⁹

In 1997 the Polish parliament passed the Energy Law, with the stated aim of providing energy security, rationalizing the use of fuels and energy, promoting competition, counteracting the negative effect of monopolies, protecting the environment and ensuring consumer choice.¹⁰ Unlike other countries in the IPP study, the legislative basis for IPP involvement in Poland was not written with an eye toward gaining outside investment per se. The primary goal of the new law was to make energy use in Poland more efficient; IPPs were seen as a mean toward this end.

With regard to the electricity industry, the Law called for a handful of important reforms. The Law unbundled ownership from regulation and policymaking—the Ministry of Economy (formerly MIT) would be in charge of policy, the Ministry of Treasury in charge of ownership functions (which include authority over privatization), and the newly created Energy Regulatory Authority (URE) in charge of tariffs, regulation and ensuring competition. (The URE, in fact, was the first ever independent industry regulator in Poland.¹¹) The Law also implemented some key intermediate reforms, including allowing employees of utilities to enter private property to check meters. The Energy Law gave the President of the URE the responsibility to approve tariff levels proposed by suppliers of heat, gaseous fuels, and electricity.

The 1997 Energy Law provided the legislative basis for involvement of IPPs in the power sector. It allowed the newly created URE to license companies to generate power, the only requirements being that the company have its home office in Poland, be in possession of sufficient funding and have relevant expertise, and employ people with the necessary qualifications. Due to Poland's capacity glut and the government's focus on privatization of existing assets, only three greenfield IPPs have begun operations. The first one to reach financial close and begin operation—an Enron owned natural gas plant—was inked not a month after the Energy Law was passed.

The Energy Law established the legal framework for the eventual opening of the market. It called for the phasing in of Third Party Access (TPA) to the grid and consumer choice in their electricity supplier, which began in 1998. As of Jan. 1 2000, all consumers with annual consumption above 40GWh were free to choose their supplier. By Jan 1, 2005 it is hoped that all customers will be able to choose. The Law created the Polish Power Exchange, a voluntary power pool and futures exchange. The volume of power traded through the exchange is minimal (about 1.5% of total electricity generated as of 2002). In 2001, the bilateral contract market (those contracts between generators and PSE or other wholesale customers) was found to be sufficiently competitive such that companies would no longer be required to submit tariffs for URE approval.¹²

In 2000, the Ministry of Economy published "Guidelines for Energy Policy in Poland until 2020". This key policy document listed three key social and economic

⁹ Szymczak (2003). "Power to the People," *The Warsaw Voice*, 25 September 2003.

¹⁰ Office of Fossil Energy, U.S. DOE (2000). "Poland Energy Law of 10 April 1997". Available at <http://www.fe.doe.gov/international/pol-law.html>.

¹¹ OECD (2002)

¹² OECD (2002)

objectives that would be the focus of energy policy, echoing the 1997 Energy Law. They were: the provision of energy security, improving competitiveness in the energy sector, and protecting the environment.

With these objectives in mind, the ministry highlighted several policy measures that needed immediate attention. Among them was the need to restructure the long-term contracts between the state-owned grid operator and power producers. This was the first indication that the long-term PPAs might be vulnerable to renegotiation, an issue that is discussed in depth later.

In order to aid energy policy, the document also laid out three scenarios for macroeconomic growth until 2020. These scenarios were then extrapolated to forecast fuel balances, final energy demand, and electricity consumption. In the low scenario for growth, the government expected to increase electricity consumption by 40% over its 1997 baseline. In the “reference” and high scenarios, electricity consumption was expected to grow 63% and 66%, respectively.¹³

Two years after the “Guidelines Until 2020” document was published, the Ministry of Economy released a revised forecast. Taking into account the serious decline in Poland’s GDP growth, increasing unemployment, and problems with public finance, the new forecasts assumed almost zero economic growth in Poland before 2005. As a result, expected final energy demand was revised downward by 8% from the previous “base” scenario.¹⁴

Private Participation in the Polish Power Sector

Privatization of existing assets, rather than the construction of new capacity, has been the focus of private participants in Poland’s electricity sector; indeed privatization is the centerpiece of the overall sector reform strategy. The main aims of privatization have been to promote competition and introduce more efficient managerial practices. The methods used to privatize assets include direct negotiation with the interested party, listing of companies on the Polish stock exchange, and selecting a strategic investor on the basis on international tendering. The original plan of the Polish Government was to sell a minority stake in each company, with the purchaser subsequently allowed to increase its share if it invested in plant upgrades and made good on the social commitments entailed in the privatization contract.¹⁵ In many cases, company employees are given an ownership share in the initial sale. Table 4 below lists electricity privatizations in Poland as of July 2003.

¹³ Poland Ministry of Treasury (2002). Country Report on Investment Climate and Market Structure in Energy Sector. Available at http://www.mst.gov.pl/dokumenty/RAPORT_KLIM_INWEST_en.pdf.

¹⁴ SUSTELNET (2004). Regulatory Roadmap for Poland. SUSTELNET Workpackage 5, available at http://www.sustelnet.net/docs/wp5_poland.pdf.

¹⁵ OECD (2002)

Table 4: Private Participation in Polish Electricity Market as of March 2004

Company	Principal Investor(s)	% Shares Owned	Capacity (MW)
<i>Brownfield CHP Plants</i>			
Krakow CHP	EdF	66%	460(e), 1390(t)
Bedzin CHP	Envia Mitteldeutsche Energie	70%	65(e), 496(t)
Wybrzeze CHP	EdF	78%	353(e), 1225(t)
Bialystok CHP	SNET	64%	155(e), 557(t)
Warsaw CHP	Vattenfall	69%	928(e), 4823(t)
Kogeneracja CHP	EdF, EnBW	33%	360(e), 1420(t)
Zielona Gora CHP	EdF	100%	23(e), 303(t)
EC Torun/Energotur Torun CHP	EdF	49%	8(e), 409(t)
PEC Poznan CHP	EdF, Veolia Environnement	85%	272(e), 1035(t)
Skawina CHP	PSEG Global	75% minus 1 share	590(e), 618(t)
<i>Brownfield IPPs</i>			
PAK	Elektrim SA	42%	2700
Polaniec	Electrabel	100%	1800
Rybnik	EdF, EnBW	94%	1800
<i>Greenfield IPPs</i>			
ENS	Enron (now Prisma Energy)	97.5%	116
Elcho	PSEG	93%	220(e), 500(t)
Energobaltic	Petrobaltic, Rolls Royce Power	46.6%, 41.4%	11(e), 17(t)

Source: Polish Ministry of the Treasury "Privatisation Quarterly" (Jan-March 2004); Company Websites

Privatization has encountered a few roadblocks. There is debate within the Polish government as to whether or not generation and distribution units should be consolidated before they are sold. And some political parties with nationalistic bents have not been amenable to selling these assets to foreign investors at all. Powerful labor unions in the coal and power industries have been able to slow the pace of privatization as they make demands for the social packages investor companies must provide. PSEG was reported to have struck a deal with labor unions at a plant in Skawina that gave employees a six year moratorium on involuntary dismissals. The Treasury Ministry has voiced its disapproval of these types of arrangements, which they say depress the selling price (and hence Treasury revenues) of privatized assets and reduce the competitiveness of the industry as a whole.¹⁶

Stranded Costs

The largest impediments to reform, however, are the long term contracts signed between PSE and the generation companies.¹⁷ In the mid 1990s, PSE and power

¹⁶ McGrath, Matthew (2002). "PSEG Heads East," in *Platts Power in Europe*. Issue 369 (11 Feb. 2002) p5.

¹⁷ OECD (2002)

generators signed power purchase agreements (PPAs)—contracts that dictate price and quantity of power to be sold for a period of up to 30 years. These contracts served as collateral for bank loans that allowed generators to invest in badly needed environmental upgrades and plant modernization projects, which would have been impossible without the purchase guarantee. In 2001, power prices under the PPAs were between 120 and 200 zloty/MWh while competitive power prices were between 100 and 110 zloty/MWh.¹⁸

In late 2000, the Polish government approved the System of Compensation (hereinafter SOK, its Polish acronym) whereby PPAs would be cancelled; instead, generators selling on the open market would receive payment if the prevailing market price was lower than a “reference price”. The reference price would be set at a price level sufficient to cover “financing costs, justified operational costs and justified return on equity” as determined by URE.¹⁹ Those companies selling power above their “reference price” would be forced to pay into the fund that compensated the companies that were harmed as a result of the contract cancellations.

However the SOK system ran into several problems. The management at Elektrowina Belchatow (Poland’s largest and most efficient generator) balked at submitting to the scheme, as they felt it would be detrimental to them since Belchatow would be paying into the scheme rather than receiving payments. SOK also ran into delays as URE had trouble approving the rules of the system and the Finance Ministry dragged its feet on related issues concerning application of value-added tax. SOK was shelved for good in late 2001.²⁰

The new Democratic Left Alliance (SLD) government that came to power in late 2001 hinted at a change in strategy after the election. In late 2002, a government committee led by the deputy minister of the economy proposed a new angle: Belchatow would merge with two higher cost producers (Opole and Turow, forming the BOT Group), so that the three long term contracts would balance out under any scheme to compensate stranded costs. PSE would then take over the financial obligations of the generators with revenue from a bond issue, which would be financed through a surcharge on transmission (similar to the original proposal).

In early Jan. 2004, the Parliament approved a bill that cancelled the PPAs. Compensation would involve PSE issuing up to PLN 15bn worth of Eurobonds. The debt service on the bonds would be paid by Polish customers, who would have a special “restructuring” fee added to their bill. But this scheme has run into trouble from EU regulators, who argue that this is illegal state aid to companies because it compensates companies above and beyond the level of losses suffered.

Poland’s power sector, while older and dirtier than those of other reforming countries in the IPP study, was nevertheless adequate for keeping the lights on. The

¹⁸ “SOK and consolidation: reasons to be cheerful in Poland?” *FT Energy Newsletters – Power in East Europe*, 2 Feb. 2001.

¹⁹ Blach, Andrzej (2001). “Poland – three key challenges,” *FT Energy Newsletters – Power in East Europe*, 11 Jan. 2001.

²⁰ Broomfield, Leo (2001). “Power Play: Money for financing the gap will come from distribution companies, which will fund this by passing the costs on to the end user.” *Warsaw Business Journal*, 1 Oct. 2001.

impetus for reform in Poland—increasing efficiency, reducing pollution, and developing competition—is somewhat different than the impetus in other countries, many of which begin reforms with an eye toward gaining outside investment to finance new capacity because of the financial weakness of the incumbent SOE.

General Investment Context in Poland

Macroeconomic Growth, Monetary Policy and Public Finance

Four decades of central planning under communist rule ended in Poland with the collapse of communism in Eastern Europe in 1989. In the aftermath, Poland adopted a program of “shock therapy”—radical, comprehensive economic reforms aimed at rationalizing the economy. As part of shock therapy, Poland introduced several measures in January of 1990 aimed at taming inflation and ending shortages. These measures included cutting the budget deficit, stabilizing the exchange rate, raising interest rates, and removing price controls.

Shock therapy seemed to be a success; Poland was the first country in the region to return to positive economic growth²¹ (in 1992) and the first transition economy to regain the 1989 level of output, which it did in 1996.²² The economy grew rapidly until 1998, when the Russian rouble crisis led to a slower pace of GDP growth. From 1998 to 2002, Poland’s economy experienced a downturn. During this period, unemployment rose, consumer spending slowed, and investment growth slowed and then began to contract in 2001-02. By mid-2003, economic growth had returned at about a 3% annual rate.

A major problem in Poland since the mid-1990s has been the tension between a lax fiscal policy and a monetary policy aimed at achieving a low level of inflation. Progress on this issue is extremely important for Poland’s eventual accession to the European Monetary Union. Since its creation in 1998, the Monetary Policy Committee (MPC) has been responsible for setting interest rates to meet an inflation target. The MPC also has a say in exchange rate policy, which is jointly determined by the government and the National Bank of Poland. Before 2000, Poland’s currency (the zloty) was banded to move 15% above and below the euro and the dollar. Since then, however, the currency has been free to float.

In recent years, the MPC has been criticized as following excessively tight monetary policy in 1999 and for keeping interest rates too high for too long in 2000 and 2001. In August 2003, the key interest rate stood at 5.25%—this after two and a half years of rate cuts.²³ According to the MPC, high rates are necessary because of the government’s inability to reduce the size of the budget deficit. Budget problems have grown more serious in recent years, as the economic slowdown and high spending has produced high deficits, putting the government further into debt.

²¹ Sachs, Jeffrey. “Shock Therapy in Poland: Perspectives of Five Years,” Speech delivered at the University of Utah, April 6 and 7, 1994.

²² Economist Intelligence Unit (2003)

²³ Economist Intelligence Unit (2003)

There is concern that the debt (which includes total debt plus anticipated payments on government guaranteed loans) might soon reach the constitutionally mandated limit of 60% of GDP. This would set off a host of emergency measures, which include forbidding state and local governments from running deficits and disallowing more government-backed loans. In 2003, finance minister Grzegorz Kolodko unveiled a program aimed at reducing the deficit below 3% of GDP by 2006. It included “revenue increases” (interpreted to mean tax increases), unspecified spending cuts, and transfers from the National Bank of Poland.²⁴ This plan was roundly criticized, by both the NBP and government ministers, both of which viewed the transfers as simply printing money. Mr. Kolodko resigned in June 2003.

The deficit difficulties are not likely to get better anytime soon, as spending is scheduled to increase as a result of EU accession. The fiscal problems Poland has experienced over the last decade are made more difficult by the fact that many government spending decisions are not made by the finance minister. Semi-autonomous agencies are responsible for social security, health care, and unemployment benefits.²⁵ Indeed, Poland’s Constitution guarantees free healthcare and free education, along with a host of other social programs. A 2000 World Bank study on corruption in Poland noted that special fund expenditures account for 38 to 41 percent of all government spending—among the largest of these funds are the Social Insurance Fund, Farmers’ Social Security, and the Labor Fund. The result is an unenviable situation—the government is stuck between a worsening debt burden and a populace that expects expansive social programs (not surprising given that the country was socialist just 15 years ago).

Politics, Corruption and the Rule of Law

Poland is a parliamentary democracy. Up until 2004, the major political party has been the Democratic Left Alliance (SLD), which evolved out of the communist-era Polish United Worker’s Party. The rank and file members of the party tend to lean towards the sort of state-dominated economic policy that Poland officially eschewed after the late 1980s. The party leadership, however, generally accepts the more market-friendly economic policies pushed by the IMF. This is sometimes difficult to sell to the party faithful, who are generally lower-class and dependent on the state. Rural voters have a strong presence in Poland—38% of the population is rural, and agriculture employs around 25% of the workforce in Poland.²⁶

The SLD has come into some troubles recently, as the media has uncovered a “steady stream of corruption scandals” involving SLD party officials. The European Commission noted a “general perception that corruption is widespread”, especially at the regional and local government level.²⁷ The World Bank year 2000 study on corruption detailed dozens of areas of economic life polluted by corruption. The most problematic observation was that corruption was widespread at the highest levels of government,

²⁴ Economist Intelligence Unit (2003)

²⁵ Economist Intelligence Unit (2003)

²⁶ Economist Intelligence Unit (2003)

²⁷ Economist Intelligence Unit (2003)

where the primary manifestation was the exchange of political party financing for political favors. An example specific to the power industry is the reported bribery that goes on in the awarding of privatization contracts. Corruption is also rife at the local government level, the level at which IPPs primarily conduct their business. The World Bank report cites widespread abuse at the subnational government level in the awarding of contracts, licenses, and permits; distortions in tariff-setting are also a problem.

The World Bank study also noted that the judicial system in Poland is rife with corruption. The Bank noted the inefficient and cumbersome procedures that one must go through to have a case heard, and the low credibility of the judges. The study says that, “recourse to the courts is seen as impractical and outcomes are seen as unpredictable, partly because of incompetence and in some cases because of corruption”.²⁸

Table 5 below shows how Transparency International’s poll of corruption perceptions rated the prevalence of corruption in the 10 countries in the IPP study. Transparency International collects data from dozens of independent surveys on corruption and reports a three year rolling average. A higher score indicates less corruption.²⁹

Table 5: Transparency International’s Corruption Perceptions Index 2003

Malaysia	5.2	Thailand	3.3
Brazil	3.9	Turkey	3.1
Mexico	3.6	India	2.8
Poland	3.6	Argentina	2.5
China	3.4	Philippines	2.5

EU accession, which happened formally on May 1, 2004, is generally seen as a positive for Poland. With EU accession comes the presumption of strong institutions, macroeconomic stability, and a larger market for Polish goods (including electricity). However, in terms of the domestic political environment, joining the EU does not have such an unambiguously positive effect. EU member countries currently lavish large subsidies on farmers within the union; these benefits, however, will not be available to the new member countries to the same degree that they are available to farmers in France and other EU incumbents. This has created resentment towards the pro-EU politicians among the powerful agricultural population, and has allowed several nationalistic parties to seize more power. Among them is a minority party called Self-Defense. Its nationalistic platform and calls for more state control over the economy appeal to many that feel betrayed by those who promised only benefits as a result of EU accession.³⁰ In March 2004 the Polish Prime Minister Leszek Miller announced his resignation. His

²⁸ World Bank (2000). *Corruption in Poland*. Report available at <http://www.worldbank.org.pl>.

²⁹ The full report is available at <http://www.transparency.org>. As a comparison, the highest rated-country is Finland, at 9.7. The U.S. is rated a 7.5.

³⁰ “Central Europe’s New Demagogues”, *The New York Times*, 14 April 2004.

party's (the SLD) popularity had hit all time lows as a result of high unemployment, a string of corruption scandals, and unpopular spending cuts resulting from EU accession. His replacement survived a vote of confidence in the Parliament in June, and new elections will be held in the fall of 2005. Until then, it is unlikely that any major policy changes will be enacted—this could include the still-unfolding long-term contract dispute.

Foreign Direct Investment Policy and Experience

In absolute terms, Poland is a regional leader in attracting foreign direct investment (FDI). According to the National Bank of Poland, FDI inflows went from \$542 million in 1994 to \$8.2 billion in 2000, and then slipped back down to \$3.8 billion in 2002 as a result of the world economic downturn. In 2001, FDI inflows compensated for 97% of the current account deficit, and Poland's ability to continue to attract inward investment will be essential to the overall health of Poland's economy.³¹

Poland has taken several measures over the past decade to increase incentives for inward investment. In 1994, Poland passed a law creating a handful of Special Economic Zones. Created in order to spur development in certain areas of Poland, a Special Economic Zone (SEZ) offers investors income tax breaks, grants for new job creation, favorable permitting processes, and real estate tax exemptions. There are currently 14 SEZs, the earliest of which expires in 2015.³²

Poland reaffirmed its commitment to providing incentives for new investment by passing a similar law in 2002, called the "Act on financial support for investment projects". Under this law, investors can receive support—in the form of a grant—if their investment meets certain criteria. For example, if the investment is for an amount greater than €10 million, or if the project creates more than 20 jobs for a period of five years, or if the investment improves the condition of the natural environment it can be eligible for support under the law.

Foreign and local companies are subject to the same treatment under the law with regards to most aspects relevant to conducting business, including property rights, the right to judicial proceedings, and the right to recourse for non-performance or improper performance of an obligation.

³¹ Economist Intelligence Unit (2003)

³² Polish Information and Foreign Investment Agency (2004). <http://www.paiz.gov.pl>.

Hypotheses and Case Selection

The process of selecting IPPs for study in Poland is extremely simple due to the small number of operational greenfield IPPs in the country. Appendix 1 lists the three Polish IPPs along with their relevant details. One of the projects, Energobaltic, is only tangentially an IPP—it generates a small amount of heat and power using associated natural gas from an offshore oil field—and thus is not relevant for the purposes of our study. That leaves us with two projects: an Enron-sponsored natural gas plant and a PSEG-sponsored coal-fired combined heat and power plant.

Despite there being only two cases to study, the projects do vary along two important dimensions. The first is fuel. Given Poland's overwhelming dependence on coal for electric power generation and Poland's stated desire to move to gas, Enron's facility might have advantageous status with regulators and policymakers. The PSEG plant must also deal with the powerful coal unions, which adds costs in the form of higher salaries and protracted negotiations.

The second factor is timing. The Enron plant reached financial close in 1997 and began operations in 1999 while the PSEG plant did not begin operating until 2004—just weeks before the government announced its intention to cancel the long-term PPAs. We might find that Enron's project has been more successful solely because it has had the five year head start. The fact that Enron got into the market so early could be attributed to several factors. One is that Enron had an extremely competent or connected local partner that allowed the project to be planned while the Energy Law was still being written. Another could be that Enron itself excelled at these types of deals—novel arrangements in risky emerging markets—and actively sought to be the first mover in any country that it could. We've seen this strategy backfire in other situations—for example, Enron's Dabhol plant in India. Perhaps by comparing examples of these types of projects across countries will allow us to determine the circumstances under which they are likely to be lucrative for the host country and project sponsor.

Appendix 1: Universe of Polish Greenfield IPPs

Elektrociepłownia Nowa Sarzyna Sp. Z o. o. (ENS)

Location: Nowa Sarzyna

Status: Operational since early 2000

Owner: ENS (Enron/Prisma Energy) 97.5% and JAC (Poland) Ltd. 2.5%

Capacity: 116MW

Fuel & Technology: Natural Gas CHP

Value at financial close: \$132 million

Notable:

- First natural gas IPP in Poland.
- ENS signed 20 year PPA with the national grid operator (PSE) in April 1997.
- ENS provides steam to Organika Sarzyna Chemical Works and is located on its grounds.
- Natural gas for the plant is supplied under long-term contract with the Polish Oil and Gas Co.
- Financiers included: WestLB (\$18.5m); Allied Irish Bank, Bayerische Vereinsbank AG, Creditanstalt AG, and Kredietbank NV (\$12.5 m each); Bayerische Landesbank Girozentrale, Erste Bank, De Nationale Investeringsbank NV, Den norske Bank ASA, and Landesbank Hessen-Thuringen (\$10m each). The remaining \$13.5 million was funded through owner's equity.
- Facility awarded on the basis of a competitive tender process
- First Greenfield project financed on the basis of concluded contracts rather than government guarantees.

Sources:

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Elcho Sp. Z o.o.

Location: Upper Silesia, 8km NW of Katowice

Status: Operational as of early 2004

Owner: PSEG Global (93%) with EC Chorzow holding 7%

Capacity: 220MW electric, 500MW thermal

Fuel & Technology: Coal, with circulating fluidized bed boilers to reduce pollution

Value at Financial Close: \$324 million

Notable:

- Elcho has a 20 year PPA for the entirety of its electricity and heat output with PSE (Polish grid co.) and PEC Katowice (the local district heating co.)
- Coal for the project comes from a subsidiary of Polish coal co. Nadwislanska Spolka Weglowa. The deal covers the delivery of 1 million tons of coal per year for 20 years.
- The day after the plant began operations, the Polish government accepted a draft act regarding the liquidation of long-term PPAs, which were said to be hindering the liberalization of the market.
- As a result, PSEG is demanding \$370-420 million in compensation.

Sources

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Energobaltic Sp. z o.o.

Location: Wladyslawowo

Status: Operating

Owner: Petrobaltic (46.6%), Rolls Royce Power Ventures (41.4%), and Hydromex (12%)

Capacity: 11MWe, 17MWt

Fuel & Technology: gas

Value at Financial Close: 175.5 million PLN (About 46 million USD)

Notable:

- Facility uses waste gas from an offshore oil platform owned by Petrobaltic to generate heat and electricity for seaside resort town of 12,000.
- The facility also produces 16,000 tonnes of LPG annually, which is stored and sold locally for use in road vehicles.
- The pipe bringing the gas to shore is 82.5 km in length and 115mm in diameter.
- The project received funding from the several Polish banks that lend to ecologically sound projects.
- There was a 6 mo. delay in the construction of the pipeline.
- There was a dispute over the price of the gas that Energobaltic was buying from its parent company Petrobaltic. According to contracts, PB was expected to sell gas to EB at prices 50 to 60 times lower than market rates.

Sources

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