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**An Overview of the Environmental Regulations
in
Poland and the Czech Republic**

by
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Independent Research Project

"An Overview of the Environmental Regulations in Poland and the Czech Republic"

by

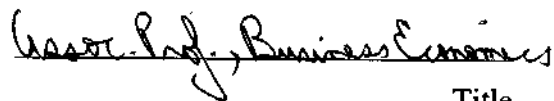
Amit Magan

Faculty Comments

This paper gives a broad overview of environmental regulation in Poland and the Czech Republic. Beginning with the early 1900's through the present, Magan traces the development of the types of environmental regulations imposed and enforcement mechanisms used. Both Poland and the Czech Republic made the transition to a market economy in the last decade. This economic development has in turn caused a significant increase in the level of attention paid to environmental issues. As Magan says at the end of the paper, these two countries "...must continue to implement strong measures and revise ineffective ones to provide incentives for environmental protection."



Signature of Faculty Supervisor



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I. Introduction

A. Paper Outline

This paper provides an overview of environmental regulations in Poland and the Czech Republic. The discussion attempts to understand the differences, if any, between pre- and post-transitional environmental regulations for each country. In particular, the objective of this paper is to provide an understanding of the intent of environmental regulations in Poland and the Czech Republic, the reasons for their ineffectiveness in the past and current actions being taken to address issues and curb further environmental degradation.

The discussion begins with some general background information on the environmental issues faced by and the drivers of environmental reform in Central and Eastern European (CEE) countries. The next section of the paper is dedicated to Polish environmental regulations and their current enforcement mechanisms, followed by a similar section on the Czech Republic. The final section summarizes the study and discusses the overall effectiveness of the systems in place in the two countries.

In an attempt to keep the discussion focused and within the scope of this study, the paper concentrates on regulatory aspects of air, water and waste pollution. This is, by no means, intended to diminish the importance of other topics that fall under the environmental umbrella.

B. Background

The environmental tragedies in CEE are a well-known legacy of socialism. Early on, the communist authorities tended to ignore problems of pollution and resource depletion, assuming these were endemic features of capitalism that would simply be planned out of existence under scientific socialism. When it became apparent that ecological problems would not simply vanish with the advent of socialism, communist authorities took action to protect the environment¹.

Over the last 50 years of communist rule, environmental quality has been severely damaged in every country of CEE. Much of the water and soil is contaminated. In many areas, atmospheric pollutants are at dangerous levels creating acid rain which has contributed to the destruction of thousands of acres of forest land. Pressures to meet the demands of a centrally-planned economic system, irrational pricing caused by subsidization of energy and heavy industries, and the nature of abuses inherent in authoritarianism have all contributed to accelerated rates of environmental degradation. Water pollution harms fisheries, and air pollution damages forests and crops. In addition, a variety of health problems, from minor coughs to toxic death, are prevalent in many regions of CEE, primarily caused by²:

- lead in air and soil from lead and zinc smelters and motor vehicles
- sulfur dioxide and other gases, especially in combination with dust

¹ Cole, Daniel, "An Outline History of Environmental Law and Administration in Poland." Hastings International and Comparative Law Review Vol. 18 No. 2 (Winter 1995): 297-358.

² Bernicke, J. W., "Environmental Management Opportunities in Central Europe for the William Davidson Institute." School of Natural Resources and Environment, the University of Michigan June (1997)

- nitrates in water, excessive use of fertilizers, high volumes of manure runoff from pig farms, cattle farms, and rural septic tanks
- contaminants in food and water, especially where heavy metals or toxic chemicals threaten supplies of drinking water
- the deterioration, or threat, of irreversible damage to biodiversity in general, and in particular to unique wetlands, forests, freshwater, coastal and marine ecosystems, and mountain habitats.

These problems, though prevalent throughout the world, are especially severe in CEE and are of great concern to the countries in question as well as the other Pan-European countries³.

While the degradation of resources and the human health-related problems are extremely important factors driving change, another important factor shaping the development of the environmental regulations in Poland and the Czech Republic is the prospect of these countries becoming members of the European Union (EU). In order to join the EU (the countries are currently associate members), the countries must harmonize their legislative and institutional framework with EU requirements and join other EU countries in battling pollution. Both countries understand the importance of accession to the EU and are implementing compliance measures to meet their goals.

³ Bernicke, note 2. Author states, "One has to only look at the levels of environmental aid from bordering countries to realize the effects that pollution has on these Western European countries."

II. Poland

A. Need for Environmental Reform

Poland, like most other Eastern European countries, suffers from severe air, water and soil pollution. This environmental degradation has resulted from decades of⁴:

- heavy reliance on coal to meet energy needs
- promotion of highly polluting heavy industries
- low investment in environmental control or remediation
- discouragement of energy efficiency through low-priced energy and other inputs.

Air pollution, particularly in the Katowice-Krakow area (part of the Black Triangle area in Poland, Germany and the Czech Republic), is the most serious human health hazard. Poland reports⁵:

- high infant mortality from dust inhalation
- high mortality from lung cancer caused due to steel mill emissions
- high levels of emphysema, asthma, and chronic bronchitis as a result of particulate and sulfur dioxide
- neurobehavioral deficits in children because of airborne lead and soil contamination

Heavy industrial and residential use of environmentally uncontrolled energy sources along with vehicle emissions have been primary culprits in pushing Poland's air pollution to alarming levels.

U.S. Department of Commerce, National Trade Data Bank and Economic Bulletin Board - products of STAT-USA, Environmental Situation and Programs - Poland, Environmental Technologies Export Market Plans, <<http://www.stat-usa.gov/BEN>> 03/20/98
U.S. Dept. of Commerce, note 4.

Poland's dumping of industrial waste and raw sewage into its rivers and the Baltic Sea has rendered large stretches of its rivers and their tributaries unsuitable for industrial use. Almost half of Poland's 150 million tons of waste generated per year is produced as a result of the country's mining operations. Until 1989, Poland imported large quantities of hazardous wastes, primarily from Western Europe. These large quantities of hazardous wastes were often mislabeled and inadequately stored and disposed⁶.

Poland's pollution problem has compounded over the years and as mentioned earlier, poses a very serious public health issue. Not only is Poland faced with the resolution of these issues but, its accession to the EU is contingent on it bringing environmental standards up to those of the 15-member EU⁷. These two factors have been the major drivers of environmental reform in Poland and have been integral to the reasons fueling the current changes.

B. Environmental Protection

1. Pre-Socialism: A historical perspective

Poland suffered from pollution long before it suffered from communism. Poland's environmental protection efforts predate communism and are testament to the country's environmental awareness (e.g. early sanitation laws regulated city sewer systems). The inter-war period saw the formation of an important piece of legislation, the 1922 Water Law, which may be considered Poland's first environmental law. The 1922 Water Law

⁶ U.S. Dept. of Commerce, note 4.

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The Bureau of National Affairs, Inc., "Environmental Improvement Critical Part of EU Accession, Government Official Says." International Environment Reporter Oct. 15 (1997): 966-967.

regulated the discharge of industrial effluents into water bodies and any user wanting to discharge pollutants or waste water "in excess of general usage" had to obtain prior approval from the appropriate authorities. The system of fees for permits for use of public waters for "non-ordinary" purposes and fines for any resulting pollution damages, potentially created an incentive to conserve water quality and quantity. Unfortunately, lack of information on the 1922 Water Law precludes learning of the actual impact of the law on pollution discharges and water quality⁸.

2. An Effort in the Right Direction (1945-1979)

After passage of the 1949 Nature Protection Act, which broadened the focus of environmental protection from protecting individuals to preserving entire ecosystems, the reigning Communist Party turned its attention increasingly toward pollution control. New water pollution discharge standards were issued in 1950, unfortunately without any effective enforcement provisions. Even though a departmental minister had some responsibility for environmental protection, it did not portend the emergence of pollution as a political priority for the Communist Party. Thus, the environmental regulations that did exist, were often undermined by economic plans that had at least equal legal status, higher political priority, and greater compliance incentives. Consequently, by the mid-1950s, water and air pollution levels in Poland reached alarming levels⁹.

Cole, note 1,300-301.

⁹ Cole, note 1, 305-306.

In 1962, the new Water Law replaced the 1922 Water Law and subjected the management and protection of water to central planning. Central plan compliance determined whether or not a water-use permit would be issued. Violators could have their permits revoked or even be subjected to fines and imprisonment. But, sanctions were rarely imposed under the pretext that the violations had resulted from "activities dictated by higher reasons."¹⁰

This same problem plagued Poland's first air pollution prevention law that was enacted in 1966. The law defined air pollution as emissions of substances "which may result in violations of permissible concentrations in the air."¹¹ As a result of the vast administrative discretion afforded by the Air Law, administrators could, in every case, decide that production concerns took priority over pollution control¹². Therefore, lack of enforcement more than lack of regulation or the poor quality of regulations obstructed effective environmental protection in Poland.

In 1964, a new Civil Code was adopted which made it possible for individuals to bring suit to stop or control pollution. The provisions under the 1964 Civil Code remained important potential sources of individual remedies against environmental harm even after comprehensive environmental legislation was enacted in 1980 though lawsuits were infrequent, and relatively few were successful. Under the new Penal Code, adopted in 1969, individuals and not enterprises or organizations could be fined or imprisoned for

¹⁰ Cole, note 1, 313-314.

¹¹ Cole, note 1, 314.

¹² Cole, note 1.

environmental crimes¹³. Specified offenses included air, water, and soil polluting activities that endangered human life and health. As with the Civil Code, few criminal cases were ever brought, and many complaints received by prosecutors were summarily dismissed. This was, once again, an example of the forces of the socialist state at work.

In the 1970s, the concept of "environmental protection" was only beginning to be defined worldwide. Once again, with industrial interests prevailing over environmental protection, Poland's environmental efforts suffered a setback in 1972. The Central Board (central planning authority that oversaw environmental protection efforts) was abolished and its responsibilities diffused.

A significant new statute of the 1970s was the 1974 Water Law. This law broadened the focus compared to the 1962 Water Law and more comprehensively treated all aspects of water management. The 1974 Water Law created for the first time in Communist Poland, a system of fees for water consumption and disposal. Fees were set by the authorities at levels exceeding the cost of water treatment in order to encourage water conservation and reduce waste and were paid into a fund to finance water improvement and quality protection projects. While financial penalties remained the same as under the 1962 Water Law, possible imprisonment terms were increased from two to five years. It was difficult to understand the impact of this law since relatively little information was available.

¹³ Specified offenses included air, water, and soil polluting activities that created a common danger for human life and health, and illegal timber harvesting.

The development of environmental legislation through the 1970s indicates a consciousness of the need for environmental reform. But, the lack of enforcement of the regulations led to further environmental degradation indicating the urgent need for some strong changes, possibly in the existent enforcement mechanisms.

3. The 1980 Environmental Protection and Development Act

The new Environmental Protection and Development Act (EPDA) blanketed the entire field of environmental protection, except for specific nature protection responsibilities, which were excluded. The law required socioeconomic plans (created by Central Planning) to give due consideration to environmental protection though, once again, the authority to suspend pollution-causing activities was discretionary. For example, only in cases where polluting activities were considered to pose a direct threat to human life or health were the authorities required to shut down the polluters. Thus, the effectiveness of the law was undermined by the discretionary use of power in meting justice to offenders.

The liability provisions were based on the "polluter pays principle," which were ineffective in a command economy where the state was ultimately responsible for all pollution¹⁴. While the 1980 EPDA provided for prison sentences and stipulated prosecution under the Petty Offenses Code, penal sanctions were rarely imposed on polluters. The 1980 EPDA also created a system of resource-use fees and economic

¹⁴ Cole, note 1

penalties for violations of environmental norms. This system of fees and fines became the state's primary tool of environmental protection during the 1980s while criminal and civil liability took a secondary status. Unfortunately, the 1980 EPDA's economic mechanisms were ill suited to the socialist economic system with its endemic soft budget-constraints¹⁵.

Prior to the 1980 EPDA, non-governmental organizations and private citizens had virtually no role to play in environmental protection. The 1980 EPDA was a first step toward giving independent "social organizations" at least a limited role in the administrative process by empowering them to file lawsuits to suspend environmentally threatening economic activities and order environmental restoration. Even though these provisions were never fully implemented, non-governmental environmental organizations became increasingly active in Poland.

The 1980 EPDA constituted the Polish government's single greatest legislative effort to protect the environment, encompassing some innovative enforcement approaches for the time (e.g. the use of market mechanisms). Yet, the environmental devastation in Poland strongly suggests that the 1980 EPDA did not have much impact on production/pollution and resource-use patterns. A major problem with the law was that it did not provide regulators with sufficient direction. The law consisted of unclear provisions, fuzzy mandates, and holes in administrative authorizations. While air

¹⁵ Cole, note 1. A soft budget constraint denotes a situation in which firm survival does not depend on profits; it can expect the government to support it for other reasons such as those related to size or level of production.

pollution standards, for example, were not lax, fees and fines established under the 1980 EPDA were set too low to induce desired changes in production/pollution patterns.

Another issue was the lack of enforcement provisions. The State Environmental Protection Inspectorate, created by the 1980 EPDA, was small and weak. It had the authority to monitor pollution emissions and "supervise compliance," but not to enforce environmental regulations (it could not impose penalties or close down polluters). Once again, the 1980 EPDA, like many of Poland's other environmental laws, lost out to *legitimacy principles* of the communist regime, including the drive to surpass Western levels of production and the commitment to full employment. Even with environmental regulations in place, the lack of enforcement resulted in ineffectiveness.

4. Post-Socialism

In 1989, Poland began its ongoing transformation from totalitarian socialism to a market-based democracy. On January 1, 1989, a new Law on Economic Activity abolished central economic planning which, since the early 1950s, had dictated resource allocation, prices, wages, and production levels. Virtually the entire economy was deregulated with potentially disastrous consequences for environmental protection. Many institutions of socialism remained in place until the "Balcerowicz plan"¹⁶ of shock therapy reforms took effect. The facts show that the Polish government has been devoted to an active and improved program of environmental protection. Poland has made considerable

¹⁶ Named for Finance Minister Leszek Balcerowicz

efforts to implement new policies, amend old laws, enact new laws, create new sources of financing and, improve administrative structures.

The 1980 EPDA has survived the transition largely intact, though it has been amended seven times (so far) since 1989¹⁷. The most important of these amendments banned the import of hazardous wastes. While the amendments are considered to be a mere facelift, the 1980 EPDA system with its market mechanisms (fees and fines) is better suited for the new system with its hard budget constraints¹⁸. The State Environmental Protection Inspectorate has also been given greater powers such as the ability to impose non-compliance fines and shut down offending facilities.

Despite major efforts undertaken so far, air pollution has been and will remain the most difficult environmental problem in Poland as it seeks to reach European standards. Poland's power industry is still a major offender, followed by the steel and chemical industries. The 1997 Energy Law, written in keeping with EU requirements, is expected to significantly decrease pollution at the nation's power plants. This law ends subsidies for various state-owned power plants and introduces free-market pricing for energy. The law is expected to increase competition among the producers of energy resulting in lower energy prices. In addition, efforts to modernize power plants are already underway and have shown substantial reductions in sulfur dioxide emissions through the use of new filters¹⁹.

¹⁷

Cole, Daniel, "Poland's Progress: Environmental Protection in a Period of Transition." The Parker School Journal of East European Law Vol. 2 No. 3 (1995): 279-319.

¹⁸ Cole, note 1,353-354.

¹⁹

The Bureau of National Affairs, Inc., "Kyoto Protocol Emission Targets Can Be Met, But Costs Will Be High." BNA's Eastern Europe Reporter January 12(1998): 6.

The 1997 Water Law is expected to lead to further improvements by requiring the modernization of water treatment facilities. The new law provides that all current permits for the use of water by industrial facilities will expire on Dec. 31, 2000. Affected plants are expected to file applications for the use of water or the construction of new water treatment facilities. Under the law, enterprises that fail to file applications on time will have to pay 10 times more for the use of water, and fines will also be much higher for inadequate purification of water. The authorities have also been given the power to order enterprises to dismantle water treatment facilities that were built without permission. While the intent of the law is apparent, its impact remains to be assessed.

B. Current Status of Environmental Legislation

Poland has emerged as a leader in economic reforms in Central and Eastern Europe after eight years of consistently implementing these reforms. Its economic growth, one of the fastest in Europe, was not followed by an increase in pollution, as in some emerging markets, but rather by an improvement in the environment²⁰. This significant progress has been the result of a unique system for financing environmental improvements and a growing governmental budget for this area.

The key elements of the current system are pollution and natural resource fees redistributed through "environmental funds" for abatement and conservation projects. Pollution fee rates are high by OECD standards, inefficient and with a limited scope for

²⁰ Turek, B; Koza, P. "Special Report: Poland's Environmental Regime." BNA's Eastern Europe Reporter June 16 (1997): 421-427.

improvement. Radical improvements are being sought by the government, through the application of other instruments like marketable pollution permits²¹.

Another incentive being offered is the option of suspension of environmental penalties for polluters who pledge to invest in environmental protection equipment or process changes within five years. If polluters keep their pledge, the penalty is removed; if they do not, the penalty is doubled. A recent study²² has shown that in certain industrial sectors, it is cheaper for firms to reduce pollution emissions than to pay the fines. Evidence of companies increasing environmental investment not mandated by any authority indicates that price stimuli in the new market economy are proving to be successful²³.

Environmental fees have existed in Poland since the 1970s to motivate polluters to adjust their behavior to environmental protection requirements. But, as mentioned earlier, the system proved ineffective in an economy where plant managers had little incentive to pay attention to price stimuli. Earlier, low fees were thought to be the reason for the ineffectiveness of the system. But, even several adjustments later, higher fees, considered exclusively, failed to produce the desired results. The emergence of cost-saving behavior in combination with market reforms and the higher fee structure are now showing positive results in the form of reduced environmental degradation.

In summary, Poland's environmental fees and fines are now proving to be more

²¹ REC, Economic Instruments: Poland (REC), <<http://www.rec.org/REC/Publications/EcInstruments/Poland.html>> 04/24/98

²² Cole, note 17, 291.

²³ Cole, note 17, 292.

effective economic incentives for environmental offenders under the new market-economy. Poland's challenge lies not only in improving the current situation but also in preparing for the demands of industrialization and economic growth. Poland must continue to enforce its regulations and possibly replace or amend ineffective laws and mechanisms as it forges ahead to EU membership and an improved environment.

III. Czech Republic

A. Need for Environmental Reform

The Czech Republic is one of the most heavily polluted countries in the world, suffering from severe air and water pollution and accumulation of solid, liquid and hazardous wastes. These environmental problems have been the result of a combination of factors²⁴:

- heavy industrialization after 1945
- predominant use of coal with a high sulfur and ash content in the overall energy balance (about 60%)
- weak environmental legislation and enforcement
- highly intensive use of energy due to subsidized energy prices and few energy efficiency measures

Air pollution is the most serious human health hazard in the Czech Republic. The major source of air pollution has been the burning of high-sulfur coal and lignite in power

²⁴ U.S. Department of Commerce, National Trade Data Bank and Economic Bulletin Board - products of STAT-USA, Executive Summary - Czech Republic, Environmental Technologies Export Market Plans, <<http://www.stat-usa.gov/BEN>> 03/20/98

plants, industrial facilities and government and commercial buildings and houses. Like Poland, the Czech Republic, faced with serious human health issues reports²⁵:

- high infant mortality from dust inhalation
- high rates of congenital abnormalities from air pollution, especially dust and sulfur dioxide
- neurobehavioral deficits in children from airborne lead and soil contamination

Water pollution is a consequence of industrial and municipal discharges from cities and towns, agricultural runoff, precipitation of airborne sulfur dioxide, and accidental spills. Approximately 70% of all the waterways in the country are strongly to heavily polluted. Groundwater contamination has caused serious health problems, including epidemics of dysentery, jaundice, and hepatitis.

In 1987, the Czech Republic generated about 630 million tons of solid waste, with pre-transition hazardous waste quantities being 11.5 million tons. The Czech Republic also generates high-level and low-level radioactive waste from its nuclear power plants. Future disposition of nuclear waste remains to be determined since the Czech Republic no longer has access to its Slovakia dumping site. The concerns with this environmental dilemma are increasing as the population suffers from health problems and a shorter life expectancy than in developed countries²⁶.

The Czech Republic's pollution problem, like Poland's, has compounded over the

²⁵ U.S. Department of Commerce, National Trade Data Bank and Economic Bulletin Board - products of STAT-USA, Environmental Situation and Programs - Czech Republic, Environmental Technologies Export Market Plans, <<http://www.stat-usa.gov/BEN>> 03/20/98

²⁶ Cerna, A; Tosovska, E; Cetkovsky, P. The Czech Republic and Economic Transition in Eastern Europe. Edited by Jan Svejnar. San Diego: The Academic Press, 1995: 378-393.

years and as mentioned earlier, poses a very serious public health issue. In addition to these issues that the Czech Republic must try to resolve, its accession to the EU is contingent on it bringing environmental standards up to those of the 15-member EU²⁷. These two factors are driving environmental reform in the Czech Republic as it attempts to redress environmental wrongs of the past several years.

B. Environmental Protection

1. Pre-Socialism: A historical perspective

The causes of the Czech Republic's environmental degradation have historical roots²⁸. The western part of the Czech Republic became one of the most industrialized parts of the Austro-Hungarian Empire in the 19th century. After the country became independent in 1918, it further developed its industrial legacy and was ranked amongst the strongest economies of the world. While it is known that environmental pollution increased during the period, the information available on the control efforts, if any, of that time was too limited to understand their impact.

2. An Effort in the Right Direction

In 1948, the communist takeover transformed Czechoslovakia into a factory for the less industrialized countries of the Soviet Union, with a growing emphasis on heavy

²⁷ The Bureau of National Affairs, Inc., "Environmental Improvement Critical Part of EU Accession, Government Official Says." International Environment Reporter Oct. 15 (1997): 966-967.

²⁸ Rambouskova, Hana, "The Czech Republic - Environmental Challenges." Delivered at the James E. Smith Midwest Conference on World Affairs, University of Nebraska at Kearney, March 15-18 (1998).

industry and little attention on environmental consequences. From the early 1950s to the early 1980s, environmental pollution and damage in the Czech Republic steadily increased. The social and economic damage is readily visible in the deterioration of human health, as evidenced by the higher mortality rate and shorter life expectancy in the Czech Republic than in developed countries²⁹. The critical situation in the Czech Republic is the consequence of the centrally planned economy, the pattern of economic growth, economic structure and long-term disregard for the environment³⁰. The state was in charge of creating environmental legislation and held responsibility for compliance, checking and enforcement. But, since the state owned and controlled enterprises, it also represented the main polluters. In addition, the state was the main source of financing of environmental protection through the state budget. As seen in the case of Poland, economic interests usually won when in conflict with environmental interests, resulting in further environmental degradation.

As a result of ongoing measures implemented by the authorities in accordance with international commitments to decrease sulfur dioxide emissions by 30%, air pollution declined in 1984-1985³¹. But, financial resources allocated for environmental protection were inadequate for the scope and seriousness of the problem³². The problems continued but effective efforts to address the situation had begun.

The end of the 1980s saw the formation of the Ministry of the Environment with

²⁹ Cerna, note 26, 378-379.

³⁰ Cerna, note 26, 380.

³¹ Cerna, note 26, 378-380.

³² Cerna, note 26, 381.

focused objectives to improving the critical environmental situation. The Ministry began with a comprehensive analysis of the situation and prepared an environmental policy. All the proposed measures were not implemented, but served as building blocks to future environmental legislation and enforcement tools.

5. The Nineties and Post-Socialism

The pressure to fulfill EU requirements has fueled dramatic growth in environmental investment and its share in total investment has increased. Effects of this have been seen from 1990-1993, when the decline in environmental quality was either stopped or slowed down, and in some cases improved. For example, sulfur dioxide, nitrogen oxide and dust emissions were reduced by 24%, 23% and 30%, respectively. Surface water quality also improved with the building of new water treatment facilities and the use of advanced technologies³³.

In the beginning of 1993, following the split with the Slovak Republic, the Czech Republic was established as a parliamentary democracy. In continuation of the environmental reforms of the previous regime, the Czech state their strategic goals as being³⁴:

- to ensure the quality of the environment is comparable with OECD states average levels that were established in 1990-1991, by 2005 and,

³³ An interesting point to note is that recent polls show that Czech citizens rank environmental problems as sixth, after problems in safety and crime, social insurance and family living standards. Note 25, 2.

³⁴ REC, The Emerging Environmental Market 1: Czech Republic: Current Situation, Regional Environmental Center for Central and Eastern Europe (REC), <http://www.rec.org/REC/Programs/BIS/survey_intro.html> 04/24/98

- to ensure the quality of the environment is comparable with the current average level of the OECD states, by 2015-2020.

The intent of the Czech regulatory bodies is apparent through their strategic goals and newly-introduced reforms. The effectiveness of all the environmental laws will hinge, to a certain extent, on how successfully they are enforced.

In 1997, the Law on Wastes, for the first time, brought together the country's waste management policies in a single comprehensive and up-to-date law. With the intent to induce a higher level of recycling, the law places stricter regulations on what may be placed in a landfill. The law bans the disposal of waste in the Czech Republic and also provides a new tariff for landfill rates until 2003. The impact of this law remains to be seen since not much time has expired between its date of effect, January 1, 1998 and the present.

Another law, which is to take effect on January 1, 1999, is the "Act on Fees for Discharging Waste Water to Surface Water." This law would increase industrial discharge fees by more than 100% over the next five years³⁵. The main objective of this law is to encourage companies and municipalities, by providing financial incentives, to build waste water treatment plants to clean discharge water instead of simply paying penalties. The current level of punishment for offenders is considered extremely low and not a great motivator for a company's management to reduce discharging pollutants into waterways. The plan involves the phasing in of fees over three years giving offenders

³³ The Bureau of National Affairs, Inc., "New Law Would More Than Double Fees for Industrial Discharges of Waste Water." BNA's Eastern Europe Reporter March 23 (1997): 202-203.

another incentive to perform before full fees are levied. Once again, the impact of this law remains to be assessed though the enforcement mechanisms are in place and will determine its effectiveness.

C. Current Status of Legislation

Since 1990, a qualitatively new system of environmental protection has been established. The basis of this new environmental protection system was the regulatory instruments inspired by standards used in countries of the EU.

The current system of economic instruments in the Czech Republic is primarily based on the use of charges. Charges are levied for the discharge of waste waters into surface waters, for releasing harmful substances into the air, for waste disposal and withdrawal of ground water. Revenues from these charges are fed into a fund which is used to provide soft-loans and grants for environmental improvements for municipalities and medium-sized enterprises.

In 1993, a new taxation system came into effect in the Czech Republic which introduced, amongst other taxes, the value added tax (VAT) and the environmental protection tax³⁶. Items and activities that are environmentally friendly are taxed at lower VAT rates and can also get temporary relief from income, real-estate and road taxes. The environmental protection taxes (e.g. taxes on environmentally "unfriendly" products) are still at the proposal stage and it is uncertain when they will become effective, if at all.

³⁶ REC, Economic Instruments: Poland (REC), <<http://www.rec.org/REC/Publications/EcInstruments/Czech.html>> 04/24/98

The impact of the control measures currently in place can be gauged by the reduction of sulfur dioxide and nitrogen oxide emissions by 49.6% and 58%, respectively³⁷. The percentage of sewage waters treated in the waste water treatment facilities before release to the public sewage system has increased by 16.8%. Landfills that are not in compliance with regulations were closed. While these are all positive indicators of the effectiveness of environmental reforms since transition, problems still exist. Sulfur dioxide emissions per capita are comparatively high (OECD countries) and nitrogen oxide emissions have begun to grow with the increase in the number of motor vehicles. Almost 5000 communities lack waster water disposal systems and water from individual wells is still contaminated.

Recent environmental improvements are a result of a combination of factors such as the transition to a market-economy, increased environmental investment, new and amended regulations with better enforcement and, the active involvement of local authorities and the industrial sector. But, with demands of industrial growth increasing, the environmental problem will not abate and the country must continue to implement strong measures and revise ineffective ones to provide incentives for environmental protection.

³⁷ Rambouskova, note 28

IV. Conclusion

Poland and the Czech Republic are both faced with a formidable task of curbing decades of environmental degradation. In the past, both countries have implemented environmental regulations. The regulations proved ineffective even though enforcement mechanisms were in place. Typically, production concerns won out when in conflict with environmental protection, leading to further environmental degradation. Since the socialist state owned the enterprises that were the main polluters, actions were rarely brought against them. Also, with the state being the main source of funding for environmental expenditures, investments towards environmental protection suffered. The countries' market mechanisms for providing incentives for environmental protection failed to provide positive results in the face of soft budgets and a command and control economy.

Much has changed since the transition of both, Poland and the Czech Republic, to market economies. Market based mechanisms introduced by the countries in the 1980s and 1990s are proving to be much more effective in the market economy and are exhibiting positive results. Firms now have incentives to meet environmental regulations and reduce their costs under hard budget constraints. In addition, with both countries wanting to join the EU and resolve their serious public health issues, regulations are being enforced. Authorities have greater powers to enforce compliance and are making an impact. Factors such as these have been contributing to the improvement in the environment as can be seen in reduced air, waste and water pollution levels.

Still, the challenge to balance economic growth with environmental protection looms large in front of both Poland and the Czech Republic. Both countries have similar goals and fairly similar approaches to achieving them. As the countries develop, they must continue to assess the effectiveness of their regulations and renew or amend those failing to provide the desired results. While the countries have taken steps in the right direction, the impact of some of the most recent legislation is a story yet to be told.

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