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APPROXIMATION OF EUROPEAN UNION ENVIRONMENTAL LAWS: THE CASES OF POLAND AND THE CZECH REPUBLIC

by

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Independent Research Project

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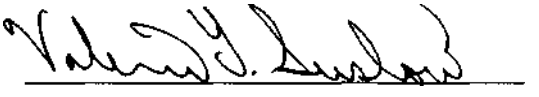
Faculty Comments

Poland and the Czech Republic have been associate members of the European Union since late 1991. Since that time, both countries have made considerable efforts to "harmonize" their laws with those of the other EU members, so that they can join as full-fledged members. One of the toughest areas to tackle is that of environmental clean-up and future environmental standards and regulatory enforcement. This paper looks at the path that Poland and the Czech Republic are taking to improve their environmental standards and qualify for EU membership. The paper concludes that both countries are still far from complete compliance with EU environmental standards, but that, for economic and political reasons, the EU is likely to accept their application for membership and look for further environmental improvements in the next ten to fifteen years.



Signature of Faculty Supervisor

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1. **EXECUTIVE** SUMMARY

Before 1980, the EU had a limited amount of environmental laws, reflecting the attention that environmental matters received in the world. Between 1980 and 1987, the number of laws increased, but the legislation developed lacked quality, leading to implementation problems that still persist today. After 1987, the EU increased its efforts on implementation of environmental laws and some positive results were achieved. The "gap", however, is still big in some countries.

It is part of the EU's aim that CEEC countries join the union. For this to happen, CEEC countries have to meet the criteria for membership, including environmental standards. This has been an incentive for Poland and the Czech Republic to intensify their efforts in pollution control. Both countries have high levels of environmental degradation as a legacy from the Communist era. Poland had a high concentration of heavy, high polluting industries, which is also true, but to a lesser extent in the case of the Czech Republic. Again, common to both countries was an environmental system with strong laws, which lacked an appropriate structure for implementation and enforcement.

Both countries have improved their environmental situation after 1989. Pollution decrease in Poland has largely benefited from the closing of polluting plants, which competition has driven out of the market. In the Czech Republic this effect also existed, but was more limited. But Poland and the Czech Republic have had success in improving their pollution control systems, which include several forms of economic instruments. Particularly in Poland these instruments have been effective, whereas in the Czech Republic their lack of implementation is still high.

Despite the improvements, approximation with the EU standards is still low, especially in waste management, which seems to have been neglected in both countries. Poland seems to be more advanced, but required investments are prohibitive, and neither country is expected to fully comply with EU standards in the medium term.

2. INTRODUCTION AND PURPOSE

Environmental issues have gained a lot of attention in the last few decades. Several institutions that represent society have become aware of damages to nature made in the name of progress. Governments are not only under pressure to protect the environment, but also realize the importance of environmental protection for sustainable development.

In line with the awareness that environmental issues have gained throughout society, research has been developed to discuss these issues in the context of specific countries.

Eastern European countries, for instance, have gained more attention after the opening of their economies, and have been the focus of several studies. One important conclusion that research has shown is that some of these countries, particularly Poland and the Czech Republic, are among the most polluted in the world.

In addition, recent research has attempted to find effective solutions for pollution control. Besides administrative instruments, which are the traditional methods for controlling pollution, economic instruments such as taxes, fees, fines, and tradable permits, have received significant attention.

The purpose of this paper is to discuss:

(1) the levels of environmental degradation in Poland and the Czech Republic, particularly in the areas of air pollution, water pollution, and waste management;

(2) the laws and enforcement structure in place to guarantee air and water pollution control, particularly concerning the use of economic instruments; and

(3) the approximation of the laws and enforcement structure of Poland and the Czech Republic with those of the European Union.

While the first two points create the foundation for the analysis, the focus of the discussion is on the specific issues that arise with European Union approximation.

3. EUROPEAN UNION

3.1 Background and Institutions

The European Union (EU) is a consortium of Western European nations that endeavors to formulate joint policies in areas of common interest. The earliest forms of the EU date back to 1957, with the creation of the Economic Community (EC), and have changed as the number of countries grew and the scope of the policies changed. Today, the EU's structure is composed of 4 main entities[1]: the European Commission, the Council of Ministers, the European Parliament, and the European Court of Justice.
The European Commission is the EU's administrative and executive body. It is responsible for implementing, supervising and enforcing EU laws but also enjoys the right of proposing new legislation. It consists of 21 commissioners, who are nominated by member-states, but not expected to the take instructions from any government.

[1] The European Council, the name given to the biannual meetings of heads of state to discuss strategic issues, is another main entity.

Operationally, it is divided into 23 directorates general (DGs), with DG XI being responsible for environmental matters.

The Council of Ministers has the authority to adopt or reject the Commission's proposals after consulting with the European Parliament, and remains the EU's main legislative body despite the increase in power that the European Parliament has gained in recent years. One ministerial-level representative from each member-state sits on the Council. Although it is nominally only one council, it has led to the creation of more than 20 sub-councils, including the Environment Council. Moreover, in dealing with environmental matters, the Council must consult with the Community's Economic and Social Committee, an advisory board that represents the various social and economic interests within the Union.

The European Parliament has 626 members who are chosen by European-wide elections every 5 years. The Parliament's role, which was limited to advisory functions in the beginning, has consistently grown in the recent years. Under a Codecision procedure, the Parliament has the power to amend or veto legislation relating to the internal market that has already been adopted by the Council.[2] Likewise, the Cooperation Procedure empowers the Parliament to reject or amend certain types of legislation, including environmental legislation, after the Council's "first reading".[3] Furthermore, it can now initiate legislation by requesting the Commission submit proposal for legislative action .

The European Court of Justice is the final arbiter of compliance with EU laws. Among its numerous powers, the Court interprets the Community's treaties, reviews the legality of Community acts, gives opinions regarding Community law from the national courts of the member-states, and decides whether another institution's failure to act constitutes a breach of Community law[5]. Especially important in the area of implementation and enforcement of environmental law is the Court's power to determine whether Member States are fulfilling their Community obligations[6]

3.2 Considerations about EU Enlargement

Recognizing the need for closer economic and political ties with CEECs (Central and Eastern European countries, the EC set up a regular political dialogue, opened its markets for imports from these countries and created a framework for wide range cooperation in economic and social matters. In October 1991, association agreements (also called Europe Agreements), with Poland, Czech Republic, Slovakia, and Hungary were reached.

[2] EC Treaty arts. 100a, 189b.
[3] Id art. 189c.
[4] Id art. 138b.
[5] Id arts. 173, 175,177.
[6] Id. arts. 169-171.

In 1993, the Copenhagen European Council[7] agreed that it was the EU's aim for associated countries of Central Europe to become members of the Union when these countries are able to assume the obligations of membership. The Council also defined that: "membership requires that the candidate country:

- has achieved stability of institutions guaranteeing democracy, the rule of law, human rights, and respect for and protection of minorities,

- the existence of a functioning market economy as well as the capacity to cope with competitive pressure and market forces within the Union, and

- [has] the ability to take on the obligations of membership, including adherence to the aims of political, economic and monetary union."

In a more simple way, the membership criteria can be categorized into: political criteria, economic criteria, and other obligations of membership. In any case, these other obligations include the adoption of the *acquis*, which comprises environmental standards, among others. It is worth noting that the applicant country has to comply with the current *acquis* at the moment of the accession, which makes current enlargements more difficult than earlier ones, since Community legislation has expanded.

The EU recognizes that, besides legislative and administrative efforts, compliance would require massive investments from CEEC countries. Furthermore, the EU realizes that such investments would go beyond applicant countries' budgetary possibilities. In this sense, the EU is willing to assist these countries in two ways: help develop a strategy for alignment and contribute partially to financing the required adjustments.

In addition to the objective assistance mentioned above, CEEC countries might have their access facilitated by three other issues: economic pressures, political pressures, and low levels of compliance in the EU. These three issues could lead to a "softer" analysis of CEEC countries' applications as far as environmental matters are concerned.

First, economic matters tend to be more important than environmental matters in the EU's behavior. In 1998, Andrew Jordan, a research associate at the Centre for Social and Economic Research on the Global Environment, commented on the tendency for the EU to give less weight to environmental matters when under economic pressures. Jordan comments on Jacques Delors' (president of the Commission) tendency to "sacrifice environmental goals to save that of deeper political integration"[8]. He also states that "History shows that when the EU makes important strategic decisions, environmental

The European Council, the name given to the biannual meetings of heads of state to discuss strategic issues, is another main entity.

Andrew Jordan, "EU Environmental Policy at 25: The Politics of Multinational Governance". Environment. January/February 1998, pp 14-20 39-44, p20.

considerations tend to get pushed aside by weightier matters like greater material wealth, jobs, and inflation"[9]. Concerning the EU's single-market initiative of the 1980's, Jordan points out that "DG XI was too weak compared to the trade and industry directorates in the Commission, and too poorly represented on key panels like the Cecchini committee."[10] Jordan also mentions that environmental policy in the 1980's was not as established as today. In this sense, the supremacy of economic pressures over environmental matters might not be as strong today as it used to be.

Second, in addition to the economic pressures, political reasons might facilitate CEEC countries' admission to the EU. Most analysts agree that a desire to politically connect the countries in Europe has been one of the most important reasons for the creation of the European Union. Keeping in mind that countries fought against one another during the two World Wars, European leaders saw the EU as a way of avoiding future conflicts. Now, these leaders might see the CEEC countries' joining the EU as the best way of guaranteeing the stability of the region. Moreover, timing might be an important factor, since the instability and uncertainty of a new regime could lead CEEC countries to a different direction.

Third, given that several of the current members of the Union do not completely comply with the EU environmental laws, the Commission might accept similar cases in applicant countries. This way the Commission would be consistent and fair. For instance, several of the current members still need to further implement the EU environmental laws, as it is discussed in Section 4.3.

Given these three considerations, the EU might adopt a more "relaxed" approach when assessing these countries' environmental situation, although the criteria for membership is well defined and is not expected to change.

4. ENVIRONMENTAL POLICY IN THE EU

4.1 Forms of Legislation and Other Instruments"

The Community usually legislates through directives or regulations, although the Council and the Commission have the power to make recommendations, make decisions, and deliver opinions.

[9] Andrew Jordan, "EU Environmental Policy at 25: The Politics of Multinational Governance". Environment. January/February 1998, pp 14-20 39-44, p42.
[10] Andrew Jordan, "EU Environmental Policy at 25: The Politics of Multinational Governance". Environment. January/February 1998, pp 14-20 39-44, p42.
[11] This section is largely based on the article by John F. Casalino, "Shaping Environmental Law and Policy of Central and Eastern Europe: The European Union's Critical Role", pp 227-256.

Art 189 of the EC Treaty defines regulations and directives. Regulation is defined as an act which has "general application" and is "binding in its entirety and directly applicable in all Member States. Therefore, regulations are self-executing, and do not have to be changed into national law. With regard to directives, the article states that: "[a] directive shall be binding as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods." Hence, unlike a regulation, directives must be transposed into national law, by a specific deadline.

The Community has the power to decide whether a regulation or a directive is more appropriate for a given situation. While regulations are generally a stronger means of guaranteeing harmonization and implementation of laws, the use of directives has been more common for environmental matters.

Other instruments include the Action Programs, which build on the broad goals set by the treaties and provide more specific goals. And the European Environmental Agency, an autonomous entity created in 1990 to provide information for member states to enact environmental measures, evaluate the results of such measures, and inform the public.

4.2 The Development of Environmental Law in the EU[12]

The development of environmental law in the EU can be divided in three distinct phases: before 1980, between 1980 and 1987, and after 1987.

Before 1980, environmental issues enjoyed relatively little attention in the international arena. This lack of attention was reflected in EU law, which concentrated on economic matters. For instance, the Treaty of Rome stated that the primary objective of European Integration was promotion of "harmonious development of economic activities." One analyst points out that: "...there was little recognition that there might be environmental limits to growth".

Between 1980 and 1987, the EU experienced a rapid increase in the number of environmental laws. By 1987, the organization had adopted more than 200 pieces of environmental legislation. Such increase, however, was not followed by quality and led to implementation and enforcement problems that still persist in the EU.

Several factors that influenced the number and quality of laws during this period are described below[13]. In fact, several of them influenced lawmaking after 1987 as well.

This section is largely based on the article by Andrew Jordan, "EU Environmental Policy at 25: The Politics of Multinational Governance". Environment. January/February 1998, pp 14-20 39-44.

Andrew Jordan provides a more comprehensive analysis of these factors, including those which influence the number, but as much the quality of the laws created.

First, the Commission does not bear the costs related to the legislation it develops. These costs will be incurred by the individual member states, which are not developing the laws. In this sense, the Commission has fewer constraints to developing laws that lead to high costs and will be difficult to implement.

Second, the governments of member states have a short time horizon, usually not extending beyond the next election. As a result, they are more likely to agree to policies whose costs will not be due until a later administration. These laws might not be implemented later since the future administration might feel less accountable for them.

Third, even if costs would be due during their administration, governments could accept laws with which they had little intention to comply. These governments knew that the Commission had only limited power to enforce its directives and that it was making little effort to see whether member states were actually complying with the laws. "The Third Action Program (1982-1986), for example, dealt with the whole issue of enforcement in just three lines and early textbooks on EU environmental law and policy gave it scant coverage."[14]

Fourth, it is often said that the need for unanimity in the Council of Ministers in the 1970s and 1980s led to poor lawmaking. Many directives from this period have vague texts, as policymakers tried to accommodate several different, sometimes opposite opinions.

After 1987, environmental lawmaking in the EU not only continued to grow, but also improved. The EU now has more than 400 pieces of legislation relating to environmental protection, and until recently the environment was one of the fastest growing areas of policy. Between 1989 and 1991, for example, the Environmental Council adopted more environmental policies than it had in the previous 20 years.

Amendments to the Treaty of Rome such as the Single European Act of 1987 and the Maastricht Treaty of 1993 gave environmental protection a firm legal basis and set the direction for new legislation. Furthermore, the Action Programs developed during this period enhanced the focus on implementation and enforcement and helped integrate environmental issues with other policies.

The Single European Act enhanced DG XI's position in the Commission by stipulating that environmental protection was to be a component of the EU's other policies. It also eased the adoption of environmental standards by introducing qualified majority voting in the Council of Ministers for environmental measures linked to the single market. Finally, it introduced the "polluter pays" principle.

Andrew Jordan, "EU Environmental Policy at 25: The Politics of Multinational Governance". Environment. January/February 1998, pp 14-20 39-44, p39.

The Maastricht Treaty of 1993 altered the purpose of the EU from simple economic growth to "sustainable and non-inflationary growth respecting the environment". It also extended qualified majority voting to most areas of environmental policy.

The Fourth Action Program (1987-1992) underlined the need to integrate environmental considerations into all policy areas and ensure that policies are fully implemented. Further developing these efforts, the Fifth Action Program (1992-present, publ. Feb. 98) has emphasized that sustainability must involve all sectors of society.

Recent developments in the EU environmental policy have also shown a trend for non-traditional approaches for pollution control. The Fifth Action Program, for example, stated that "sustainability must use a wider array of policy tools than legislation alone." Moreover, Jordan comments that the EU " has also begun to explore the possibility of substituting voluntary agreements with industry for more traditional command-and-control regulation.[15] However, given the EU's more directive than regulatory character, definitions about forms and methods of controlling pollution are rare.

4.3 Persistent Problems[16]

Despite the positive developments, "there are indications that EU's environmental policies have not been overly effective."[17] In fact, the authors of the Fifth Action Program concluded that there has been "a slow but relentless deterioration of the environment" of member states. Environmental policy in the EU suffers from three significant "gaps": implementation, enforcement and integration.

In 1995 the European Environment Agency released an assessment of the Fifth Action Program saying that the EU was not implementing the program fast enough. Moreover, the number of infringement proceedings in the EU grew from 16 in 1982 to 217 in 1990.[19]

Enforcement deficiencies contribute to the lack of implementation. DG XI does not have enough personnel to track the implementation initiatives of member countries.

[15] Andrew Jordan, "EU Environmental Policy at 25: The Politics of Multinational Governance". Environment. January/February 1998, pp 14-20 39-44, p20.
[16] This section is largely based on the article by Andrew Jordan, "EU Environmental Policy at 25: The Politics of Multinational Governance". Environment. January/February 1998, pp 14-20 39-44.
[17] Andrew Jordan, "EU Environmental Policy at 25: The Politics of Multinational Governance". Environment. January/February 1998, pp 14-20 39-44, p20.
[18] As originally discussed by Andrew Jordan, the "gaps" were only two: implementation and integration. The distinction between implementation and enforcement was made for the purposes of this paper.
[19] Andrew Jordan, "EU Environmental Policy at 25: The Politics of Multinational Governance". Environment. January/February 1998, pp 14-20 39-44, table 1 p40.

Moreover, it has no direct power over national governments to make sure that EU policies are implemented.

It is worth mentioning that implementation and enforcement gained more attention from the EU after 1987. Some member states fear that non-complying countries could have a competitive advantage in the single market, since companies producing in these countries would have lower costs.

With regard to lack of integration, in the past the EU has been strongly criticized for promoting policies that directly harm the environment. Its common agricultural policy, for example, subsidizes intensive farming that has led to pollution of waterways by nitrates and phosphates from fertilizer. Similarly, its efforts to improve transportation links between member states have destroyed important wildlife habitat and boosted motor vehicle emissions.

In addition to the gaps discussed above, enlargement considerations have also brought some difficulties to the environmental policies of the EU. One analyst comments that: " In recent years, environmental regulation in the EU has lost a good deal of momentum. This is connected to a more general sense of disillusionment with attempts to step up the pace of integration and extend the EU into the former eastern bloc."

Today, as described by the Commission, environmental policy in the EU "aims toward sustainability based on the integration of environmental protection into EU sectorial policies, preventive action, the polluter pays principle, fighting environmental damage at the source, and shared responsibility. The *acquis* comprises approximately 200 legal acts covering a wide range of matters, including water and air pollution, management of waste and chemicals, biotechnology, radiation protection, and nature protection. Member states are required to ensure that an environmental impact assessment is carried out before development consent is granted for certain public and private projects."

5. THE CASE OF POLAND

5.1 Background and History

Poland is one of the most polluted countries in Eastern Europe and suffers from high levels of environmental degradation as a legacy from the Communist era. First, the government left environmental protection to a secondary level. The centrally planned economy focused on heavy industry and mining and relied on high-polluting

This section is largely based on the article by Halina Szejnwald Brown; David Angel; Patrick Derr, "Environmental Reforms in Poland" In Environment, January/February 1998, pp 10-13 and 33-38.

technologies. Environmental protection was always subordinated to industrial production, full employment and growth.

Second, another legacy from the Communist era was an environmental protection structure that, despite having several qualities, proved inefficient. Among the qualities of this structure, Poland featured a sophisticated and innovative system of environmental laws. Since early in the century Poland pioneered in laws that dealt with the preservation of natural resources, including the Water Law Act in 1922. Also, in the post war period Poland developed a comprehensive environmental protection system. For example, the 1949 Nature Conservation Act established a national environmental policy and specific goals, introduced a requirement to assess the environmental impacts of major projects and set up an agency to carry out its provisions. Over the next three decades, an impressive body of environmental laws and administrative initiatives was created, including new civil and penal codes for pollution in the 60s, an Air Pollution Act in 1966 and a Water Act in 1974. Compared to US legislation at the time, the Polish system was considered progressive. Besides modern laws, Poland developed during the Communist era an intellectual elite for environmental research, which is largely responsible for today's initiatives in environmental protection.

Nevertheless, Poland's success in developing environmental laws was not followed by adequate levels of implementation of the environmental laws and infrastructure for their enforcement. Yet, several reasons can be mentioned for the low levels of implementation and enforcement in Poland. There was a lack of economic incentives for industrial managers to invest in pollution control. For instance, pollution fees were set too low and had little impact on state-run industries (www.rri.org). Moreover, the shortage of capital for financing environmental protection made pollution control initiatives even rarer. Both factors resulted from the government's preference for industrial production over environmental protection.

In addition, the state's control of information, which limited public participation in environmental matters, as well as the lack of a market economy structure hindered the implementation and enforcement of the laws in the country.

Finally, as a result of all these inadequacies, the pollution control system in Poland fell into discredit by government institutions, companies, and citizens, creating a tradition for neglecting the law.

5.2 Recent Developments

In the last decade, the environmental situation in Poland has significantly improved. To some extent, Poland benefited from the decline in production and the closing of polluting plants, which resulted from increased competition. As the economy opened, international

competition drove several Polish companies out of the market. More recently, increase in GDP has been followed by an increase in pollution levels, but not at the same rate.

Nevertheless, Poland has had some successes in controlling pollution. The foundations for this change started in the 1980's, when environmental matters were embraced by Solidarity and other groups. Finally, in 1989, as a result of the discussions between Solidarity, the outgoing and the newly elected governments, Poland developed the Environmental Protocol, which outlined a national environmental policy for the next decade.

As part of this policy, the Ministry of Environmental Protection, Natural Resources and Forestry was created to consolidate all responsibilities in the area. This Ministry worked with the Polish parliament to strengthen Poland's enforcement system. For instance, they increased the powers and resources of the State Environmental Protection Inspectorate (PIOS), which is an independent monitoring and enforcement agency, closed loopholes in existing environmental laws and increased environmental use fees. More recently, efforts have been made to organize negotiated compliance schedules for industry and access to information for the public.

In one other attempt to strengthen the enforcement of environmental laws, the Polish government implemented a closer control over the most harmful polluters. In 1990, a list of the most harmful polluters was generated, and companies in this list had their operations controlled with regard to pollution. As a result of this focused effort, at least 7 non-complying production sites were shut down.

5.3 Situation and Progress by Pollution Type

Waste management seems to be one of the biggest problems in Poland, and is an area where little progress has been accomplished. Evaluating Poland's situation, OECD stated that garbage dumps were 90% full and estimated that these dumps would be completely full in 2001. OECD also commented that Poland was on top of the list of Europe's leading waste producers. Of more than 120 millions tons of waste produced annually, only 1% was neutralized by incinerators and composting plants, and 50% was recycled.

Most importantly, this area has been somewhat neglected by recent pollution control initiatives. OECD mentioned that industrial waste has decreased since 1990 because of smaller production and the introduction of collection fees, but the lack of solutions in this area was critical. In line with this assessment, the European Commission's opinion was that: "There has been little progress in hazardous waste management,...". The Commission recognizes that recent accession to the OECD is expected to provide a stimulus for improvement, and mentions a law that is waiting to be adopted in this area, but mentions waste management as "an area where approximation is still low."

Water quality seems to be the second biggest problem in Poland. OECD has pointed out that Poland uses 3 times as much water as other OECD countries per unit of industrial production. Also, 60% of Polish rivers do not even meet Category-3 water purity standards, meaning that the water is not even fit for industrial use. Moreover, less than 2.5% of the water deposits are fit for human consumption. Estimates are that water pollution has declined by 10% since 1989.[21]

Air pollution is the area where the most progress has been achieved, and where problems are less urgent among these three. Since 1989, dust emissions by the 80 largest polluters has declined by 61 %, and that of sulfur dioxide (SO2) by 32%. According to government measures, emissions of dust and SO2 in 1995 were respectively 40% and 50% lower than in 1989. The same source informs that CO2 emissions in 1994 were 30% lower than in 1988 and that the use of the most harmful freon gases (R11 and R12) in 1994 were approximately 85% lower than in 1988.[23] In spite of these improvements, an increase in emissions has occurred in the transport sector, following the rise in the number of cars after 1989.

Even though decrease in production was partially responsible for the improvements in the areas of air and water quality, pollution reduction efforts in these areas have been more frequent and effective than those in waste management.

5.4 Economic Instruments

Poland has a long tradition in the use of economic instruments for pollution control. Back in 1974, Poland introduced charges for the use and pollution of water, which might have been the first system of environmental use fees in the world. Later, a system of fees and fines was extended to other environmental media.

The contribution of instruments has increased in the most recent legislation. According to the European Commission, the Polish "approach to reducing air pollution has been dominated by economic instruments and environmental management in selected areas, rather than legislation". The current system includes taxes, fees, fines, subsidies and debt swapping incentives. To complete the picture, Poland has already developed a pilot project in tradable permits. To solve an old problem, the new Ministry of Environmental Protection, Natural Resources and Forestry and the Polish parliament are working together to increase environmental use fees.

Since 1990, Polish businesses polluting the water and air have been subject to fees and other penalties. Until 1995, only a few companies were affected by the system, but new rules were already under development to include in the system also small businesses such

[21] Gazeta Wyborcza no. 90, 17-18 April 1993 p.2.
[22] Gazeta Wyborcza no. 90, 17-18 April 1993 p.2.
[23] www.mos.gov.pl/soe/8c.htm.

as bakeries and greenhouses. These types of companies are also very harmful because their emissions occur close to the ground level.

The contribution of economic instruments to environmental protection in Poland has been positive. One analyst examined the effects of environmental fees and fines and concluded that since 1990 they have provided a significant economic incentive for pollution prevention. Data from 1991 to 1996 shows that fees for air emissions have increased more than inflation. Moreover, revenues from environmental fees and fines increased dramatically between 1990 and 1995. However, further increases in fines might still be necessary. A journalist quoted a figure according to which, "pollution fines accounted for a mere 0.1% of the costs of polluting companies".

In addition, the Commission states that "...industrial pollution...has failed to rise at the same rate as the economy, thanks to a large investment programme, industrial re-structuring, and the incentive effect of the economic instruments developed after 1989." Finally, OECD estimates that industrial waste, one of the most problematic areas in Poland, has decreased since 1995 due to decrease in production and the introduction of collection fees.

The country has also been successful in mobilizing these revenues from fees and fines to national and regional environmental funds, which are used to finance ecological investments through low-interest loans and subsidies. From the money collected, 40% goes to the National Environmental Protection Fund (NFOS), about 50% to provincial funds, and the rest to commune funds. In 1995, the National Environmental Fund had 800 million dollars. More recently, however, the Fund's income has dropped as a result of improved compliance levels and lower revenues from fines. My impression is that, as compliance levels increase in the future, Poland will have to look for other financing alternatives.

5.5 Compliance with the EU

Poland applied to membership to the European Union on April, 8, 1994. Since then, the possibility of joining the EU has represented one additional incentive for improvements in Poland's environmental protection system. In an effort to harmonize Poland's national laws with those of the EU, the government and the parliament take EU policies into account when formulating the country's new laws. For example, early in 1995, the Polish Transport and Maritime Economy ministry passed a resolution to reduce motor vehicle exhaust-emissions to comply with EU standards.[25]

[24] Erik Mistewicks, Wprost no. 5, 2 Feb. 1997, p. 46.
[25] Andrej Ratajczyk, "Reduced emissions mandatory: Poland breaths easier", The Warsaw Voice. July 2, 1995.

Nevertheless, despite the fact that some approximation has occurred, Poland is still far from total compliance with EU environmental standards. The European Commission's Opinion on Poland's Application for Membership to the EU states that:

" Given the recently enhanced efforts and focus on approximation, full transposition of the environmental *acquis* in Poland could be expected in the medium term. However, effective compliance with a number of pieces of legislation requiring a sustained high level of investment and considerable administrative effort (e.g. urban waste water treatment, drinking water, aspects of waste management and air pollution legislation) could be achieved only in the long term." [26]

The Commission also mentions that: "Particular attention should be given to the quick transposition of framework directives dealing with air, waste and water, as well as the establishment of financing strategies for legislation in the water, air and waste sectors requiring major investments."[27]

In my opinion, despite this objective assessment of approximation, Poland's candidacy might benefit from less objective factors. Poland, in one way, may contribute to the overall environment of the EU. The Commission recognizes that "Poland retains some areas of great natural value which could represent an asset to the environment of an enlarged Union". Furthermore, the economic pressures, political pressures and low levels of compliance by current member states of the EU, as discussed in Section 3.2, can positively impact Poland's application.

Tables 1 and 2 illustrate estimated investments and costs that Poland would incur to comply with the EU standards. It is important to note that the assumptions underlying cost estimations may vary significantly from one study to another, leading to very different results.

6. THE CASE OF THE CZECH REPUBLIC

6.1 Background and History

Agenda 2000, Commission's Opinion on Poland's Application for Membership of the European Union, item B, section 3.6

[27] Agenda 2000, Commission's Opinion on Poland's Application for Membership of the European Union, item B, section 3.6

The levels of environmental degradation are very high in the Czech Republic. As the European Commission described, "in 1989, what is today the Czech Republic was one of the most polluted regions of Central Europe".[28]

Despite having strong environmental laws, the environmental protection system in the Czech Republic had a weak framework for enforcement of such laws. For instance, a government official pointed out that "although toxic emissions limits before 1989 were based on World Health Organization, and sometimes even stricter because of Soviet regulations, they were not enforced"[29]

The lack of good monitoring systems was a major reason for this weakness in enforcement. For example, the State Environmental Policy approved by the Czech government in 1995 noted that the environmental monitoring system had not been able to provide comprehensive information about the state of the environment in the country.[30]

6.2 Recent Developments

Since 1990, a qualitatively new system of environmental protection has been established, and it can be said that its first generation was completed in 1993. Initial results of the system seem to have been positive. The Commission points out that: "Since 1989, the situation has improved considerably, as a result of the high level of environmental investment, but also due to industrial restructuring."[31] Part of the credit may also be given to the government's closer control over the companies, through a list of most harmful polluters.

While it is arguable that the decline in industry production has also contributed to the reduction in pollution, this effect is not very clear. It is true that some heavy, high polluting industries had their production decreased, which was beneficial to the environment. On the other hand, other polluting industries that had comparative advantages for exporting to advanced countries kept running. Since these industries are important for maintaining the trade balance, the government does not show real attention to curtailing the production of such goods.

On the other hand, the positive benefit from changes in agriculture was more evident. The decrease in production led to a reduction in the use of fertilizers. Moreover, as a

Agenda 2000, Commission's Opinion on the Czech Republic's Application for Membership of the European Union, item B, section 3.6

[29] Dr. Jaroslav Koi, Director, Institute of Public Health "Is Prague ignoring dioxin's risk to public health?", Prague Post, 10/01/1997.

[30] John F. Casalino, "Shaping Environmental Law and Policy of Central and Eastern Europe: The European Union's Critical Role", pp 227-256.

Agenda 2000, Commission's Opinion on the Czech Republic's Application for Membership of the European Union, item B, section 3.6

result of privatization, smaller, more environmentally friendly production units were established.

Despite the progress achieved, the Czech's environmental protection system still has problems. The Commission mentions that it has "still inadequate enforcement, gaps in sectorial and subsidiary legislation covering implementation, and low environmental awareness and public participation.

In addition, there has been a decline in interest for environmental matters in recent years. For instance, people's membership in environmental groups has decreased, and some of these groups have been extinguished. Furthermore, the Czech Environment Ministry today has a weaker position than in 1990.[32]

6.3 Situation and Progress by Pollution Type

According to the Commission, "the main environmental challenge in the Czech Republic is air pollution"[33]. The situation, however, has improved a lot during this decade. As Jioi Vejvoda, Director of the Prague office of the Czech Inspection of Environment points out: "In 1990, we were world's no. 1 in emissions of sulfur dioxide per capita, but this improved a lot."[34]

Between 1989 and 1994, total emissions of sulfur dioxide fell by 36%, but is still twice as much as OECD average. Emissions of nitrogen oxides fell by 60%, being below the OECD average. Dust emissions fell by 49%, and that of hydrocarbons dropped by 37%. Emissions of carbon monoxide dropped slightly following an increase between 1989 and 1992.[35]

Nevertheless, while industrial air pollution has decreased, pollution from vehicles has increased, especially in Prague. As Helena Kasmarova of the State Health Institute explains, "Cars are responsible for the rising levels of nitrous oxides."[36]

Waste management is another area where the Czech Republic has serious problems. The Commission states that "Uncontrolled landfill with hazardous and solid waste is another

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[34] "Pollution changing, but not improving", Prague Post, 01/19/1997.

[35] www.env.cz/envi/policies/policy.html.

[36] "Pollution changing, but not improving", Prague Post, 01/19/1997.

major problem."[37] And that "waste management is a somewhat neglected area at present, but proposed legislation is focusing on plugging this gap".[38]

Problems in water quality are less urgent according to the Commission. Yet, water flows categorized as highly and severely polluted constitute 34% of the total water flow length. Pollution discharges reduction in this area between 1989 and 1994 include: BOD5 by 55%, insoluble substances by 43%, crude oil substances by 64%, inorganic salts by 25%, and acidity/alkalinity by 72%.[39]

6.4 Economic Instruments

Economic instruments were in use in the Czech Republic since the Communist era. For instance, water pollution fees have been collected since 1966.[40] Fines for non-complying companies also existed. However, as in the case of administrative instruments, economic instruments also suffered from the lack of enforcement. One analyst commented that fines were either low or ignored. "In fact, it was common practice for state businesses to incorporate the costs of fines as a line item in their annual budgets."[41]

Although administrative instruments still dominate the present environmental protection system, economic instruments have been used as a supplement since 1990. For instance, in the new taxation system that came into effect in 1993, not only was there an environmental protection tax, but also other taxes incorporated environmental elements. One example is the case of VAT. Environmentally sound products such as water-soluble paints, electric cars, thermal pumps, and products of 100% recycled paper pay the 5% reduced rate rather than the 23% regular rate. In fact, the Commission's opinion was that "The Czech Republic makes extensive use of fiscal and economic instruments".[42]

The current system includes the polluter pays principle, and is composed primarily by charges, tax allowances, grants, and soft-loans. Taxes targeted to protect the environment have not been implemented yet, and environmental insurance has been proposed already, but not approved.

Since 1990, a completely new approach toward financing environmental protection has been developed. Revenue collected from most charges goes to the State Environmental

Agenda 2000, Commission's Opinion on the Czech Republic's Application for Membership of the European Union, item B, section 3.6

[38] Agenda 2000, Commission's Opinion on the Czech Republic's Application for Membership of the European Union, item B, section 3.6

[39] www.env.cz/envi/policies/policy.html.

[40] www.env.cz/envi/rocenka/r95e/D3.htm.

[41] John F. Casalino, "Shaping Environmental Law and Policy of Central and Eastern Europe: The European Union's Critical Role", pp 227-256.

Agenda 2000, Commission's Opinion on the Czech Republic's Application for Membership of the European Union, item B, section 3.6

Fund, which is a source of subsidized financing, in such forms as grants, soft loans and loan guaranties. However, this Fund can be used only for environmental protection efforts primarily vested in the public interest as well as the elimination of the "old" ecological burdens. In line with the polluter pays principle, most funding for environmental projects comes from companies' own sources.

The use of economic instruments continues to grow. At present, a new environmental policy, which assumes the application and use of even more economic instruments, is being formed on the basis of the previous period's evaluation. As the transition to the market economy progresses, these instruments are becoming irreplaceable.

It is possible to consider the program of economic instruments in the Czech Republic as progressive, even after a worldwide comparison. Moreover, it has well fulfilled its preponderant fiscal function of providing revenue for environmental improvements. Nevertheless, discrepancies exist between their proclaimed and real functions. Economic instruments are being prepared predominantly by lawyers and engineers rather than economists. These lawmakers are less familiar with economic instruments. Pollution charges were determined without a through economic analysis of relevant costs and without provisions for inflation. As a result, charges for air and water pollution, for instance, were lower than the costs necessary to implement pollution control projects.[43] In fact, the Commission adverted for an "inefficiency of economic instruments by low level of fines."[44] In addition, insufficient courage on the part of the authorities to enforce the new system occasionally caused problems.

6.5 Compliance with the EU

The Czech Republic applied to membership to the European Union on January 17, 1996. Looking at possibility of joining the EU the country has begun systematic efforts to approximate its legislation to that of the EU. "For example, all five priorities listed in the Czech Environmental Policy (improving water quality by limiting pollution discharges, reducing the production of wastes, eliminating the impact of harmful physical and chemical factors and remedying previous environmental damage) are listed in Article 80(2) of the Czech Republic Europe Agreement."[45]

However, in spite of the fact that some success in approximation has occurred, the Czech Republic is still far from total compliance with EU environmental standards. The European Commission's Opinion on The Czech Republic's Application for Membership to the EU states that:

[43] www.env.cz/envi/policies/policy.html.

[44] Agenda 2000, Commission's Opinion on the Czech Republic's Application for Membership of the European Union, item B, section 3.6

John F. Casalino, "Shaping Environmental Law and Policy of Central and Eastern Europe: The European Union's Critical Role", pp 227-256, p248.

" With present commitment maintained and existing levels of investment and provided planned legislation and comprehensive environmental accession strategy are adopted and implemented, transposition of the whole environmental *acquis* as well as effective compliance with important elements of it (e.g. aspects of the air quality legislation, environmental impact assessment, industrial risks and chemicals legislation) should be achieved in the medium term. However, effective compliance with a number of pieces of legislation requiring a sustained high level of investment and considerable administrative effort (e.g. urban waste water treatment, drinking water, aspects of waste management and air pollution legislation) could be achieved only in the long term."

The Commission also mentions that: "Particular attention should be given to the quick transposition of framework directives dealing with air, waste and water and the Integrated Pollution Prevention and Control (IPPC) directive, as well as the establishment of financing strategies for legislation in the water, air and waste sectors requiring major investments.

Tables 1 and 2 illustrate estimated investments and costs that Poland would incur to comply with the EU standards. It is important to note that the assumptions underlying cost estimations may vary significantly from one study to another, leading to very different results.

7. DISCUSSION ON POLAND AND THE CZECH REPUBLIC

7.1 Similarities between Poland and the Czech Republic

There are more similarities than differences between the two countries with regard to environmental issues. Both Poland and the Czech Republic have very high levels of environmental degradation as a legacy from the Communist era. This is partially due to the high concentration of heavy, high polluting industries in their economies. But the main reason is the inadequacy of a pollution control system, which, in spite of having modern laws, lacks the appropriate structure for their implementation and enforcement. Furthermore, as a result of this inadequacy, the pollution control system fell into discredit with government institutions, companies, and citizens, becoming even less efficient.

Likewise, Poland and the Czech Republic have considerably improved their environmental situation, partially because competition drove polluting companies out of

Agenda 2000, Commission's Opinion on the Czech Republic's Application for Membership of the European Union, item B, section 3.6

Agenda 2000, Commission's Opinion on the Czech Republic's Application for Membership of the European Union, item B, section 3.6

the market, but partially due to the countries' own successes. Environmental laws have been further enhanced, implementation has improved and enforcement has become more effective. In addition, the possibility of joining the EU has represented one additional incentive for improvements in the systems, since both countries have attempted to harmonize their national laws with those of the EU.

Unfortunately, both countries seem to be still far from total compliance with EU environmental standards. It is true that harmonization of laws has occurred and tends to grow. One may also argue that the lack of implementation in these countries is not much higher than in several of the EU's current members. Nevertheless, enforcement has not yet achieved the same effectiveness. As shown in Tables 1 and 2, estimated costs for taking the current status of the environmental degradation to the EU's standards are prohibitive.

Similarities are so clear that, in several parts of the document that states the European Commission's opinion on each country's Application for Membership to the EU, the same sentences are used to describe their current situation and future perspectives for joining the organization (text presented for Poland, italics added for the Czech Republic):

First, the Commission points out that: "Particular attention should be given to the quick transposition of framework directives dealing with air, waste and water *(for Czech - and the Integrated Pollution Prevention and Control (IPPC) directive)*, as well as the establishment of financing strategies for legislation in the water, air and waste sectors requiring major investments."

Second, the Opinion states that, provided that the current commitment is maintained, "full transposition of the environmental *acquis* could be expected in the medium term *(for Czech - transposition of the whole environmental acquis as well as effective compliance with important elements of it (e.g. aspects of the air quality legislation, environmental impact assessment, industrial risks and chemicals legislation), should be achieved)."*[49]

And third, it mentions that: " However, effective compliance with a number of pieces of legislation requiring a sustained high level of investment and considerable administrative effort (e.g. urban waste water treatment, drinking water, aspects of waste management and air pollution legislation) could be achieved only in the long term."[50]

Agenda 2000, Commission's Opinion on Poland's Application for Membership of the European Union, item B, section 3.6

Agenda 2000, Commission's Opinion on Poland's Application for Membership of the European Union, item B, section 3.6

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From the Commission's Opinions one can also conclude that both Poland and the Czech Republic concentrate on and have been more effective in reducing air and water pollution, whereas approximation in waste management has been neglected and is still low.

The estimated total annual costs and annual investments to comply with EU environmental standards are also similar for Poland and the Czech Republic. As estimations provided in Tables 1 and 2 illustrate, these figures would be about 6% of the 1994 GDP for both countries.

7.2 Differences between Poland and the Czech Republic

Even though similarities between the two countries are more common, some differences exist. One significant difference lies on the fact that Poland seems to be more advanced than the Czech Republic as far as pollution control is concerned.

First, the evidence shows that the structure for environmental protection in Poland in 1989 was already more effective than in the Czech Republic. Poland has a longer history for using modern approaches in environmental laws. Moreover, the examples show that the gap in implementation and enforcement of environmental laws in 1989 was smaller in Poland than in the Czech Republic.

Second, since 1989, the environmental reforms in Poland have been faster and more effective. In fact, Poland was the first country in the region to develop environmental policies after 1989. Furthermore, the loss of attention that environmental matters have experienced has been stronger in the Czech Republic. In addition, economic instruments have been more effective in Poland than in the Czech Republic, as the Commission's Opinions suggest.

Most importantly, Poland seems to be a little more advanced than the Czech Republic in terms of approximation with the EU environmental laws. As per the Commission's opinion, for instance, the Czech Republic still needs transposition of the framework of the Integrated Pollution Prevention and Control (IPPC) directive. In Poland, the Commission's assessment states that the foundations and procedures for this directive are to a large extent in place, although they still need further implementation. In addition, the fact that Poland has areas of environmental value might represent another advantage of the country for obtaining a faster approval of membership to the EU.

One last difference as to the approximation process is that Poland and the Czech Republic have made their own choices for prioritization of specific legislation. This is a consequence of both the EU's flexibility in this regard and each country's other international obligations. These choices however, are not expected to impact each country's chances of achieving membership.

The causes of environmental degradation constitute another difference between the two countries. While high levels of pollution in Poland were clearly connected to an economic concentration on heavy and high polluting industries, this link was less evident in the Czech Republic. Along the same lines, the decrease in pollution resulting from decrease in production is more evident in the case of Poland.

One other important difference refers to how the three types of pollution impact the overall picture of the environment. In the Czech Republic, air pollution is the most problematic, followed by hazardous and solid waste. The quality of the water is the least grave among these three. In Poland, waste and quality of water are the biggest problems, while air pollution brings fewer concerns. This difference, however, should not be significant for approximation with the EU, as for both countries, waste management was pointed by the Commission as the area where approximation is the lowest.

7.3 Specific Issues about tradable permits

Tradable permits supposedly offer a cost-effective way for reducing pollution. Considering that marginal costs of pollution reduction vary across different companies, tradable permits allow for the most reduction in pollution to come from companies to which pollution control is less expensive.

However, these economic instruments are advantageous only under the assumption that the market for permits functions properly, which might not be the case for Poland and the Czech Republic.[51] These countries are still in the process of learning how to function effectively in a market-based economy, and their organizations still have to adjust to basic trading systems. Thus, at a first glance, one could say that the best solution would be to delay the use of tradable permits until general market systems become more mature in these countries. On the other hand, it is easier to adapt an environmental system to a new approach while it is still in formation, than it is to change this system after people and institutions become used to it.

Two other important issues have to be analyzed when establishing markets for tradable permits: pollution concentration in particular areas and the influence of regional pollution control authorities. Concentration of pollution in some areas may lead to separate markets for tradable permits, since these regions would require a greater decrease in pollution. This is the case of Poland, for instance, where half of the country's emissions are concentrated in six of the 49 provinces. The situation is particularly dangerous in the Upper Silesia, which with 2% of the country's area, accounts for 20% of all particular-

[51] For a more detailed analysis of economic instruments see W. Michael Hanelman, "Improving Environmental Policy: Are markets the solution?".

matter emissions and 25% of sulfur dioxides.[52] The Czech Republic also has areas of concentrated pollution, most notably in the Black Triangle and Ostrava.[53]

Likewise, regional authorities would tend to narrow the market. They would probably be willing to reduce pollution in their areas and would not allow companies from their areas to buy permits from companies located in other areas. Again, that is the case in Poland, were permits are granted at the regional level by Regional Environment Inspectorates. [54]

If the companies that have the lower cost for pollution control happen to be in the same region, the potential gains from cost variation will not be fully realized by the entire market, and benefits of the tradable permits solution will be limited. It is worth mentioning that it might be likely that companies that have the highest or lowest costs are concentrated in one region, since regional factors influence a company's costs for controlling pollution.

All in all, my opinion is that Poland and the Czech Republic should not miss the opportunity of implementing tradable permits systems now. The existence of such advanced methods of pollution control can be seen by the European Commission as a commitment to environment protection. Nevertheless, gains from the tradable permits system should be expected in the medium term.

[52] Grzegorz Kapuscinski, "It is not easy being green", Wvoice, 08/11/96

[53] Agenda 2000, Commission's Opinion on the Czech Republic's Application for Membership of the European Union, item B, section 3.6

[54] Agenda 2000, Commission's Opinion on Poland's Application for Membership of the European Union, item B, section 3.6

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Table 1: Total Investments for Approximation to the EU (billion ECU)

	Water			Air	Waste			Other	Total Investment billion ECU	Total Investment Per Capita ECU	Annual Investment Per Capita	1994 GDP Per Capita ECU	Annual Investment % 1994 GDP
	Supply	Waste	Total		min	max	average						
Poland	4.4	13.7	18.1	13.9	2.2	3.3	2.8		35	893	45	2,427	1.8%
Czech	2.2	1.1	3.3	6.4	8.0	3.8	5.9		16	1,515	76	3,563	2.1%
CEEC	17.5	33.1	50.6	48.2	9.7	22.7	16.2		115	1,052	53	2,482	2.1%
Cohesion EU	6.5	10.6	17.1		1.1	1.1	1.1	0.7	19	415	21	9,325	0.2%

Industrial waste water was not considered in the estimates
Investment to be completed over 20 years
Cohesion countries are: Greece, Ireland, Portugal, and Spain
For cohesion countries, air pollution was not included, other was included

Source: Study from the European Union, DG XI, April 1997 (reorganized for the purposes of this paper)
Estimates are not directly linked to approximation to EU, and sometimes include different assumptions and cost indicators

Table 2: Total Annual Costs for Approximation to the EU (million ECU/year)

	Waste Water			Air			Waste					Total Costs million ECU	Per Capita Costs ECU	Costs % 1994 GDP
	Capital	Operating	Total	Capital	Operating	Total	Capital	Operating min	Operating max	Average	Total			
Poland	760	625	1,385			1,557		350	1,700	1,025	1,025	3,967	102.0	4.2%
Czech	155	170	325			741		105	560	333	333	1,399	135.8	3.8%
CEEC	2,023	1,719	3,742			3,561		1,000	5,050	3,025	3,025	10,328	94.5	3.8%
Cohesion EU			31,000			8,500		20,000	20,000	20,000	20,000	59,500	172.8	1.0%

Source: Study from the European Union, DG XI, April 1997 (reorganized for the purposes of this paper)
Estimates are not directly linked to approximation to EU, and sometimes include different assumptions and cost indicators