

Working Paper

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in the Katowice Administrative Region:
A Cause for Concern?**

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by
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Introduction

The subject of policy implementation is complex and controversial while analysis of implementation in transitional economies such as Poland is probably even more so. Controversy in the field is due mainly to the lack of consensus about the definition and measurement of implementation. In addition, empirical analysis of policy implementation in transitional economies is sparse or non-existent and often leads to significant levels of speculation. As will be seen below, data used in these analyses is also often misleading and provides only a partial picture of how policies are actually employed. It is the ambition of this paper to develop a more detailed picture of the policy implementation process in Poland by examining how three environmental policy instruments are used in one provincial administrative district (Voivodship), Katowice, and evaluating how social, political, and economic forces mold their character.

Katowice province is considered an environmental "hot spot" by international and Polish standards as a result of its extensive pollution problems. The province has the largest emissions of all provinces in Poland and is also one of the most important concentrations of emissions of air pollutants in Europe. Additionally, however, this geographically small region possesses a full set of complex and complicating social, economic and institutional characteristics: high population density; local reliance on a small set of state run primary industries; and the entrenched power of a few large state corporations that supply Poland with much of the energy and materials needed for modernization. These characteristics combine with the new environmental policy instruments and pollution reduction goals within the context of a transitional market economy to form a complex foundation for bargaining and negotiation between firms and administrators and other interest groups that serves as the basis for this inquiry.

The paper is organized in the following way. The next section will briefly evaluate air pollution statistics in Katowice and Poland, indicating that while some improvement has been realized, legitimate concerns remain. Following this, a theoretical framework of analysis of the implementation process is constructed and a set of testable hypotheses are developed. The fourth section presents a more detailed profile of the socio-economic, institutional and organizational context found in Katowice which is followed by a brief case study of the implementation of three interrelated environmental policy instruments in the province¹. Finally, the paper develops some conclusions based on the study that provide support for the framework as well as practical policy evaluation.

¹ In this paper the term institution refers to the as the norms, rules and standard operating procedures of society while the term organizations comprise the formalized groups of individuals that operate within the institutional reference.

Environmental Policy Implementation in Katowice: What is at Issue?

Analysis of environmental quality in either Poland or Katowice in isolation from the economy is insufficient. This is especially true for the time period under investigation (1989 to 1995) because soon after 1989, as a result of the general economic transition and the accompanying macroeconomic reforms enacted by Finance Minister Balcerowicz from 1990-1991 (Novy, 1996), Poland experienced a severe economic decline. The extent to which emissions reductions were a result of output reduction, industrial restructuring or environmental policy is unclear. However, as Table 1 shows, declines in emissions in Poland seem to track well with declines in economic indicators until 1992 when the economy begins to improve. After 1992, air pollution levels seemed to continue to drop while economic indicators rose.

Table 1. Percent Change in Economic and Environmental Indicators in Poland, 1988-1994

	1989	1990	1991	1992	1993	1994
Total Final Energy Consumption by Industry	-5.5	-14.5	-11.7	-7.8	0.2	na
Volume of Industrial Output	0.2	-22.1	-10.8	1.6	7.0	11.3
Gross Domestic Product	0.2	-11.6	-7.6	2.6	3.8	5.2
Total SO ₂	2.1	-17.9	-6.5	-6.0	-3.2	-2.9
Total NO _x	6.6	-11.7	-5.5	-6.6	-0.1	0.0
Total Particulate Matter	12.1	-18.8	-13.8	-5.9	-5.1	-6.7

Source: Główny Urząd Statystyczny, 1995.

While these figures indicate that conscious air pollution reduction activity may be in evidence, it is not clear whether the underlying causes of this reduction are the result of the recession, economic restructuring policy, environmental policy or some combination thereof. It is important to understand which forces or policies are behind the "implementation" of air pollution reduction activity, especially if it is the case that environmental policy played only a marginal role in the emission declines. Future management of the environmental crisis in Katowice is dependent upon environmental policy that is appropriately linked with economic policies as well as effective in its own right. This concern becomes especially clear when Katowice environmental indicators are presented (see Table 2 and 3).

Table 2. Ambient Air Pollution Levels in the Katowice Province in 1993

Substance	Units	Average Annual Concentrations		Permissible Average Annual Conc.
		Minimum	Maximum	
SO ₂	g/m ³	4.00	122.00	32.00
Suspended Dust	µg/m ³	72.00	182.00	50.00
Lead	ng/m ³	95.00	1626.00	200.00
Cadmium	ng/m ³	1.30	54.40	10.00

Source: Nowinska, 1995.

Table 3. Comparison of Industrial Emission between Poland and Katowice, 1993

	Poland	Katowice	Percent of Total Emitted by Katowice
Total SO ₂ Emissions (Kt)	1.78	0.33	18.8
SO ₂ Concentrations (Tons per Sq. Km.)	547.4	3,133	572.5
Total Particulate Matter Emissions (Kt)	0.60	0.09	15
Particulate Matter Concentrations (Tons per Sq. Km.)	1.9	17.3	910.5
Heavy Metals Emissions (Kg/Year)			
Chromium	26817	19965	74.4
Zinc	175249	150486	85.9
Cadmium	3393	2569	75.7
Cobalt	408	408	100.0
Nickel	2998	2008	67.0
Lead	187390	94402	50.4

Source: Preisner & Pindor, 1995.

Table 2 shows that ambient concentrations of SO₂, suspended dust, lead and cadmium, ranged far above permissible levels at certain times of the year. In the case of suspended dust, even minimum levels never fell below permissible levels. Table 3 shows that concentrations of particulate matter and SO₂ are extremely high in Katowice - five and nine times higher than the national average. In addition, Katowice province is Poland's main emitter of a number of heavy metals including chromium, zinc, cobalt, and nickel. These tables (2 & 3) indicate that air pollution problems are far from solved in Katowice, and that significant problems still exist. Not only are emissions of air pollution in Katowice high relative to the rest of Poland, but the linkage between environmental status and policy implementation appears to be highly complex.

While many reports and some analysis point to the fact that air emissions have shown steady declines since 1989, no one has actually tried to disaggregate the multiple causes of these declines (Preisner & Pindor, 1995; Novy, 1996; Pasierb, 1992; Slocock & Sowinski, 1996). While this paper does not promise to define the precise extent and origin of the reductions, it does hope to provide some analysis of the factors that determine the character of environmental policy implementation in Katowice. An understanding of how selected social, political and economic factors have driven environmental policy outcomes thus far is important for developing a picture of the future viability of existing environmental policy instruments in three main ways. First, the extent to which implementation of environmental policy has been effective gives an indication of the ability of the province to continue to reduce air emissions in the future. Second, the extent to which environmental policies and economic policies are linked, and the nature of those linkages, provides an indication of the structural barriers to or opportunities for future emissions reductions. Finally, analysis of the institutional and organizational factors that have acted to mold the character and use of policies in the past, may provide a good indication of the ability to improve or alter environmental policies or their implementation in the future.

Theoretical Framework, Data and Methods

It is expected that exploration of how local conditions and policy actors impact the use and effectiveness of policy instruments will provide clues to the strengths, future viability and needed reforms of environmental policy in Katowice. However, in order to better understand the process of policy implementation in Katowice, it is important to begin from a specific theoretical perspective. This section will begin with an introduction of the general theoretical framework and then focus in on an analytical framework for analysis from which a set of testable hypotheses are developed.

Theoretical Foundation

The theoretical perspective of this research is based on traditional rational choice theory in which self-interest of individual actors in the policy arena is considered to determine the design implementation and performance of policy instruments². The actors are identified as politicians, government agencies, citizens, interest-groups and other professional groups (Majone, 1989). Each actor behaves according to their own interests in negotiating policy design and implementation arrangements that determine how such things as resource channels and legal constraints are altered. With respect to environmental policy, the actors can alternately be divided into the regulators, the regulated and third parties (Peacock, 1984; Majone, 1989). It is the interaction among these groups in the political process that determines how policies are designed and implemented. This paper focuses primarily on the implementation process.

According to this perspective bargaining and negotiation over the rules of the implementation game are continuously in process with each group trading concessions in order to enhance the overall interests of their own coalition, and hence retain the support of their membership or constituencies. There are three theoretical perspectives on the mechanisms of implementation: "top-down"; "bottom-up" and "network" (Ferman, 1990; Najam, 1995). Top down refers to a hierarchical view of policy implementation in which outcomes are matched with intentions and problems stem from issues of authority and discretion. This view determines that policy success is essentially a function of how the rules of implementation are written and how the lines of authority are structured. The bottom up perspective identifies the implementors of the policy, i.e. bureaucrats, as bargainers between higher level policy makers and clients or citizens end-users. Bureaucrats are the deliverers of policy and as legitimate and responsive government officials, adapt policies through a continuous micro-level decision making process that is significantly context specific. Alteration of design is considered to be the result of both political and managerial influences. Policy network or interorganizational relationship theory (O'Toole, 1986; Bressers, O'Toole & Richardson, 1994) considers it impossible for governments to implement a specific policy on their own - regardless the extent of authority. Instead, knowledge, skills, information and other resources are spread out among the various actors in the policy community forming a web of resources that facilitates and formulates policy implementation. The extent to which policies are implemented depends to a large degree on the coordination of these groups.

² It is acknowledged that focus on self interest of participants in the policy process does not incorporate other factors such as altruism and common interest that are also important drivers of behavior.

This paper assumes that the continual system of bargaining operates in a multidirectional manner at multiple levels in the bargaining process such that determination of problems, selection of policy instruments, and actual use of the instruments for specific purposes is determined by the actors involved (Rein & Rabinovitz, 1978; Najam, 1995). The bargaining context is characterized by multiple factors that impact outcomes including: stated policy rules; resources; information; skills; expertise; interorganizational relationships; and social values and needs that come to bear on the policy in question. Within this bargaining context, competition exists among the actors, the set of perceived environmental problems, and the existing set of environmental policy solutions. For example, it may be the case that a region well known for high industrial emissions is also a region in which politicians, citizens and environmental bureaucrats consider economic welfare to be conceptually separated from and/or more important than environmental health. Alternatively, another region may be host to environmentally minded citizens, bureaucrats, firms, and interest groups are much more influential collectively than are non-environmentally minded groups. In each example there are different potentials for consideration of environmental problems vis a vis economic concerns. Obviously, the existing organizational context, and the power and resources of actors impact how the policy instrument is implemented. The following section organizes and clarifies how a representative set of the interacting pressures might impact the process of policy implementation.

Analytical Framework

Analysis of the local conditions of policy implementation in Katowice province is conducted from three perspectives: (1) competing issues; (2) inputs; and (3) context. Competing issues refers the natural hierarchy of social and economic concerns considered in the policy process. Inputs describes the effects of policy content, administrative capacity, and financial resources for the implementation of technological or managerial initiatives on implementation. Context concerns issues such as commitment to environment, broader organizational networks, institutional inertia and firm incentives. Each of these components will be developed further below and a representative hypothesis will be included at the end of each section. These hypotheses will then be explored in the case study of the Katowice region.

Competing Socio-Economic Issues

Within any policy environment there is a prioritization of concerns. This is because resources are limited and a hierarchy of human needs exists in which there is a natural tendency to favor one concern over another. These competing issues or trade-offs are evident in all societies and all policy making organizations. However, they are especially important to acknowledge in transition economies in which the ratio of available resources to the policy areas in need of attention is particularly low. Examples of competing issues are easy to find, but are exemplified by the conflict between economic development and improvement of environmental quality. Choice among competing issues has especially dramatic social and political effects on transitional economies in which aspects of governmental structure are new, standards of quality of life are precarious, and alternate social values are often introduced. Implementation of environmental policy should be evaluated within this context.

Hypothesis A: Implementation of de jure environmental policy is hindered by the overriding importance of economic concerns. This may be especially true of transitional economies whose available resources are minimal in comparison to the extent of change required for transition toward a market economy. This trade-off between economic and environmental objectives in a resource-scarce society acts as a significant barrier to environmental policy implementation.

Policy, Administrative and Financial Inputs

Borrowing mainly from the top down approach, the combination of inputs - such as policy content, financial resources and administrative structure, capacity and coordination - is critical to understanding whether and how policies are implemented. For example, environmental policies that are overly ambitious may not be considered implementable by firms, bureaucrats, political representatives or citizens. In fact, they may only have been intended as guidelines or value statements for polluters or some broader audience. Resources are always scarce, but the trends with which resources are distributed or redistributed give clues to how policies are being employed. Moreover, administrative structure, coordination - both horizontally, between policy areas, and vertically, between levels of government - and capacity in terms of resources and experience are indicators of their overall influence in policy implementation.

Hypothesis B: Structural and functional organizational changes that take place within the bureaucracy in response to the broader economic transition (planned to market economy), are typically incomplete and fragmented in the short run and lead to problems for policy implementation. During the transition governing structures that served prior economic and social systems come in conflict with requisite and desired changes for the new system. It is during the unstable process of sorting out which structures and functions should cease and which should take their places that problems for policy implementation arise.

Implementation Context

Context represents a set of contributing factors involved in facilitating or inhibiting the implementation process. Included in this category are such considerations as extent of public awareness, size and aggressiveness of organized pressure groups, type and level of firm incentives, and the strength and pervasiveness of the linkages among the various organizations within the policy environment. Citizen groups that continuously lobby government for stronger legislation or pressure firms for greater emissions reductions, provide a visible force within society that may affect implementation. Contexts in which environmental organizations and citizen groups are aggressive and maintain formal or informal influence over policy decisions may also produce stronger legal instruments and implementation mechanisms than those contexts in which accountability to and inclusion of these groups is not apparent. In addition to external interest group pressure, internal access to policy design and reform by the regulated organizations is another area in which implementation of environmental policy may be affected. Firms that are included in the formal policy making process may have greater incentive to comply with regulations than firms that are excluded. Similarly, organizations whose influence dominates one area of policy making (i.e. large firm dominance of economic development policy) may not need to

respond to incentives established by what may be considered to be a competing policy area (such as environmental policy). Finally, the extent to which there are linkages between similar and different groups may affect implementation. Strong linkages between environmentally activist citizen groups, firms and environmental organizations provides a context more suitable for environmental policy implementation than contexts in which these types of organizations act in isolation and do not acknowledge each other.

Hypothesis C: While the general transition toward a market economy is often seen to imply a greater opening for encouragement and adoption of social concerns (i.e. environmental issues), in fact the complexity of the change process provides opportunity for previously powerful actors to assert control over certain policy areas. A transitional economy in which environmental objectives are subservient to economic objectives provides an opening for the environmental policy implementation to favor entrenched actors that were powerful before the transition. This creates a situation in which solutions to problems created by excluded actors are very difficult to implement.

Data & Methods

This project comprises a single case study of environmental policy implementation in Katowice. The case is divided into two main sections. The first section explores the general background of the region's economic, institutional, social and environmental character. The second section provides a more in-depth analysis of three interrelated environmental policy instruments: the ecological fund, fines and effluent fees. Analysis of the three policy instruments in conjunction with the background study help to address the stated hypotheses and give insights about the general character of environmental policy implementation in Katowice.

Data include Polish national government and Katowice provincial government documents and reports, secondary analyses, statistical records and in-depth interviews. Interviews were conducted on-site in Katowice city (the seat of the provincial government), and with one exception all were in English. A local interpreter assisted with the non-English interview. Interviewees are primarily associated with the public sector in Katowice which may be a source of bias in the study. Future analysis should incorporate greater input from the private sector and other public or non-profit organizations.

As a means of enhancing the validity and reliability of the results, a method of data triangulation is employed. Data triangulation refers to a common qualitative research method in which conclusions are built upon cross-referencing multiple independent sources of information as a means of increasing the level of confidence associated with stated conclusions (Yin, 1984). A survey instrument was designed for the study based on written and presented material available at IIASA. The instrument was designed in accordance with survey research methodology literature (Fowler, 1993).

The Katowice Administrative Region

In general, the social, political and economic landscape in Poland is in transition from the politically centralized, economically planned, pre-1989 communist state to a more

decentralized administration and market economy. Because fewer than 10 years have passed since the transition in 1989, characterization of the current path of economic, political and social change or of what the future may hold is not simple. Therefore, a brief description of the changing socio-economic and institutional landscape provides a helpful introduction to the region and establishes a basis for more detailed analysis of the policy implementation process in the following in-depth case studies. This section will also give an impression about how different aspects of the analytical framework interact.

Economically, the movement toward a market economy could be characterized as “taking hold” in Katowice with the share of private sector employees having increased from 29 percent to 42 percent between 1991 and 1994 (Preisner & Pindor, 1995). On the other hand, the majority of heavy industry and mining is still state owned and directed with one of the seventeen large steel mills in Poland now completely privatized³. Because state-owned or directed industry still represents a significant portion of industrial output and employment in the region, the transition toward a market economy can be viewed as sectorally biased with the largest industries of coal, steel and power remaining somewhat insulated from market competition.

Institutionally, the transition has created a situation in which many of the standard operating procedures of the previous era remain while new institutions are difficult to establish. For example, the power of the coal industry to forestall district heating, gasification and low emission environmental policy are significant, while environmental interest organizations and citizen activism have been declining (Poborski interview; Smith, 1995). The reasons behind the status of each of these are complex and result from different causes. The power of the coal industry results from the fact that approximately 97 percent of Poland’s coal (the world’s 5th largest coal exporter) is mined in Katowice and employs a significant proportion of the region’s population. The coal industry is completely state owned and maintains a strong ally in the Ministry of Industry which, in the scheme of national politics, probably ranks above the Ministry of Environmental Protection, Natural Resources and Forestry. The size of labor employed by this industry alone is a significant barrier to restructuring policy that results in increased unemployment. Finally, in response to demands by lending agencies, energy subsidies designed to facilitate conversion from coal to natural gas were removed in Poland. This, in combination with the coal industry’s policy of providing its employees with hard coal as a form of payment in kind, have worked to entrench the coal industry and coal based heating and cooking in the region (Sowinski interview).

In the case of environmental interest organizations, a history as one of the only forms of legitimate political activism since the early 1980s in Poland has resulted in a negative and combative image which persists today. In addition, early work by these groups to alternately paint either a negative or a positive portrait of the environmental situation lead to a loss of stature in Katowice (Jezewski interview, Poborski interview). Although environmental organizations grew in size after 1989, this rise

³ It is true that the process of privatization is progressing with state directed selling of shares to workers. However, because of the national importance of these industries and the history of state involvement, central government direction of production is still prominent in most large firms. (Novy, 1996)

was short lived and membership has recently been falling (Smith, 1995). In addition, some of the leaders of these environmental groups are now employees in regional or central government agencies - this is true in the case of at least two of the former directors of the Polish Ecological Club (Sloccock & Sowinski, 1996). Whether this is a conscious strategy of co-optation by the government or the result of a natural market for skill and capacity in the region is not known.

In addition to these historical barriers to effective organization of environmental interests, there is also a significant rejection of social activism and a fostering of economic individualism that pervades the Katowice society. A rejection of social activism describes the reaction against communism, centralization, and social organization in general. Such a reaction is probably not surprising after many years of central control. However, it may also act as a barrier to effective organization for both economic or environmental purposes. It is common knowledge that people in the region are much less concerned with environment these days - they are much more interested in improving their own economic status (Poborski interview; Smith, 1995; Sowinski interview). That Katowice citizens are not environmentally aware is a myth propagated by multiple environmental organizations in the 1980s (Jezewski interview). Rather, it is an issue of individual priorities - economic concerns of the individual are much more important than environmental issues. It is perhaps for this reason that the Voivodship is concentrating its environmental education programs on the youth (Jezewski interview). Nevertheless, it may be that the natural hierarchy of economic well-being over environmental well-being is reinforced by a rejection of social activism and an inclination toward economic individualism.

Organization of economic interests also appears to be affected by the sense of economic individualism described above. In response to a questions about the extent to which the steel industry lobbies the Voivodship government, interviewees noted that while steel firms had established a Steel Industry Chamber of Commerce, there was no indication that organized lobbying of environmental policy makers took place. Instead, steel firms communicate mainly on an individual basis with environmental agencies (Sowinski interview; Szymborski interview). This type of behavior is reinforced on two fronts. First, by the fact that there is a high concentration of large, state-owned firms in Katowice - the number of employees in any one firm representing a strong enough socio-economic interest for agency attention. In addition, soon after the 1989 transition the Contract for Upper Silesia (of which Katowice is one province) was signed between the central government on one side and the economic and social interests and local government on the other. While this contract essentially called for the central government to preserve and enhance the quality of life of the region, it is clear by its contents that economic concerns rank significantly above environmental concerns (Preisner & Pindor, 1995). Nevertheless, one begins to the profile of an organizationally fragmented society with respect to environmental policy on the one hand, and a marriage of powerful traditional interests and economic individualism on the other. How this situation may change as the transition continues remains to be seen.

The structure of the environmental administration also reflects the transitional context in which centralized authority is still highly prevalent, while increasing emphasis has been placed on greater regional autonomy. In Katowice, tasks and responsibilities are

divided among central and regional agencies in ways that may prevent strong administrative coherence and contribute to a relative dispersion of power. A brief review of the environmental administrative structure illustrates this point.

National pollution reduction goals, ambient air standards and fee and fine levels are promulgated by the Ministry of Environmental Protection, Natural Resources and Forestry. The extent of these legal guidelines is impressive. For example, in 1990 the Ministry of Environmental Protection, Natural Resources and Forestry committed to medium term goals of reduction of SO₂ emissions by 30 percent, reduction of NO_x emissions by 10 percent, and reduction of dust emissions by 50 percent by the year 2000 as compared with 1980 levels (Glinski, 1992; Pasierb, 1992). In addition to strong policy guidelines and ambient air standards, Poland has also adopted a set of comparatively high emissions fees for a wide variety of pollutants (Sloccock & Sowinski, 1996). Other policies include embarrassment listings of major national and regional polluters and heavy fines for non-compliance.

The central authorities are also represented at the regional level (49 Voivodships) by State Inspectorate offices that are legally responsible for enforcement of environmental regulation through inspection of individual pollution sources and assessment of fines. Each Voivodship also maintains an Ecological Department whose main duties include: (1) issuing of air pollutants emission permits, (2) assessment of emissions fees and collection fees and fines, and (3) collection of data and conduct of emission inventories for all point sources within their administrative boundaries⁴ (ifo Institute Report, 1993). Therefore, while inspection and legal enforcement is placed in the hands of the central government representative (State Inspectorate), implementation, licensing and collection activity is placed in the hands of the regional Department of Ecology. This structural arrangement creates a disjuncture between administrative autonomy based on task and administrative authority based on hierarchical power. While this picture of fragmentation may not be detrimental under conditions in which a stable system of governance and regulation works to control firm behavior, in the case of Katowice organizational fragmentation appears effective only for those firms that are active participants in the policy process. For those individuals and organizations outside the decision making process, such fragmentation probably does little to either induce or coerce environmental behavior.

Summary

In terms of the theoretical framework outlined above, competing issues, implementation context, and policy and administrative inputs can be seen to frame a bargaining scenario in Katowice. Within the last seven to eight years, emphasis on market transition combined with a social reaction against organization and a move toward administrative decentralization appears to have reinforced industrial interests while maintaining environmental interests in the margins. While individual agencies are dedicated and concerned with the severe environmental situation, there is apparently little in the broader social environment that supports policy implementation and much to support the status quo of industry lead restructuring. Simultaneous with the devolution of environmental tasks and responsibilities to the local level that has

⁴ The Voivodship office also sets emissions standards for individual firms and develops broad policy goals for the region in an attempt to fulfill national targets.

lead to fragmentation of governmental authority, concentration of industry and labor power have reinforced the fragmentation.

Still, environmental policy is implemented on a daily basis and some encouraging signs have been seen regarding reductions of particulate matter, SO₂, and NO₂. The remainder of this paper examines the three main policy instruments - fees, fines, and the ecological fund - in terms of the theoretical frame to show how environmental policy tools work in practice in Katowice.

In-Depth Case Study of Three Interrelated Policy Instruments

Introduction

The Ecological Fund, Fees and Fines represent three interrelated environmental policy instruments in Katowice. The Ecological Fund is a financing mechanism for ecological development in which 40 percent of fees and fines collected are distributed to a National Fund, 50 percent to the individual Voivodship funds and ten percent to the Municipal Funds. The funds are provided to firms or localities in the form of soft loans and grants for everything from complex ecological restructuring to basic technological improvement. These funds represent a major portion of all financial flows for environmental investment in the Voivodship (OECD, 1995; Szyborski interview). Fees are assessed by the Voivodship Department of Ecology based on emission levels while fines are assessed by the State Inspectorate on emissions over and above licensed allowable limits. Fees and fines represent a significant portion of the revenue for environmental expenditures. While the outline of these main policy instruments in Katowice appear relatively straight forward, implementation in practice is highly flexible and even problematic. The ecological fund case will be presented first, followed by a combined presentation of fees and fines implementation.

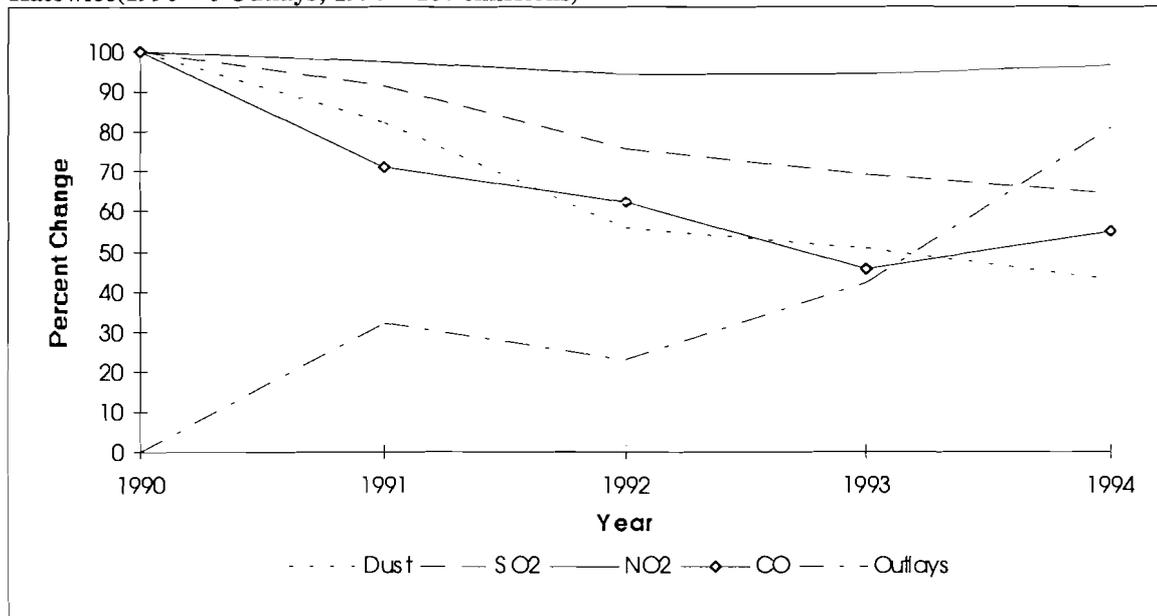
Voivodship Ecological Fund

Funds for expenditures on environmental projects can be divided into four separate categories: firms own resources, government run environmental funds, national and local budgets, and foreign sources. The category of ecological fund is actually a composite of National, Voivodship and Municipal Ecological Funds, of which the Voivodship fund has represented between 15 and 27 percent of total funding available to firms in Poland between 1991 and 1994 (Preisner & Pindor, 1995).

Revenues for the environmental funds are mainly collected through fees and fines with about 50% of all fees and fines coming from charges on air emissions. As mentioned previously, these revenues are collected by the Katowice Department of Ecology and distributed to the National Fund (40%), Voivodship Fund (50%), and Municipal Fund (10%). However, within Katowice province, the expenditures have favored air pollution abatement projects which have continuously received an increasing proportion of available environmental funds since 1991 when the proportion of air pollution abatement expenditures was 35%, until 1994 when this category of expenditures received 64% of the total (OECD, 1995). The emphasis placed on air pollution abatement is appropriate because nearly 19 percent of all SO₂ and 15 percent of all dust emitted in Poland in 1993 originated in Katowice (See Table 3).

While the expenditures have increased, industrial air emission levels have either leveled off, or have begun to increase (Figure 1). There is an obvious reduction in the effective return to investment, and combined with the extreme variations in ambient air standards (Table 2), a more critical assessment of the process and targets of one of the regional funding mechanisms, the Voivodship Fund, is necessary.

Figure 1. Indexed Industrial Air Emissions and Investment Outlays for Air Pollution Abatement, Katowice(1990 = 0 Outlays; 1990 = 100 emissions)



Source: Urząd Statystyczny w Katowicach, 1994

The Voivodship Fund is an independent agency of the Voivodship government whose mission is to provide financial support to projects in which there is a “[positive] environmental effect of the investment (Sowinski interview).” While the overall criterion for provision of soft loans or grants to firms through the fund for air pollution abatement is emission reduction, other criteria exist including economic feasibility and permission to build granted by the Department of Ecology (Szyborski interview; OECD, 1995).

Specific priorities of the Voivodship Fund are developed each year through a quasi-democratic process in which the Department of Ecology invites participants to take part in a debate over funding priorities for the coming year. Participants include environmental organizations, research institutes, government representatives and industry leaders. At the opening of the multi-day meeting, the Voivodship Fund Office presents a list of proposed priorities as a basis for discussion and debate. Each participant has the opportunity and right to present alternative rankings or new categories of importance. Final agreement is made through a negotiated consensus.

During this meeting, specific projects are also discussed and decisions are made about funding of important regional projects as well. For example, during the 1995 meeting it was decided that the Voivodship fund also contribute (in addition to the National Ecological Fund) to the restructuring of a desulpherization plant in Jawarno. This is especially significant because pollution from this plant affects the Krakow area in the neighboring Voivodship. In this case, funding was provided by one Voivodship for the benefit of another (Szymborski interview).

Money from the fund is typically provided in the form of investment credit with interest rates much lower than commercial bank rates. Inflation rates have kept commercial interest rates well above 30% while funds are loaned at between 10-20% depending on the priority of the project⁵ and firms are generally awarded money from the Voivodship Fund based on their contribution in terms of fees and fines. In addition, firms that actually pay fees after construction, receive a bonus in which 25% of the loaned funds become interest free (Szymborski interview; Sowinski interview). Finally, excessive delay in fee or fine payment can result in reduction or refusal of future credits.

In summary, the environmental fund appears to contain a series of promising provisions aspects: local priorities are determined by local interests in a quasi democratic process; there is an effort to include participants come from different and often conflicting perspectives in the decision making process; and loan outlays are in accordance with priorities and fee payment behavior. In practice, however, there are significant concerns.

For example, fee payments are based on ability to pay and partial deferment is the norm (Szymborski interview; Sowinski interview). Also, the extensive focus on environmental effects, concern about social repercussion of plant closures, and probably issues of equity among firms, has lead in the case of the steel industry to funding of restructuring projects of firms that are too old and should have been shut down (Novy, 1996). This perpetuates excess production capacity among state owned enterprises while funds are essentially distributed away from the more efficient firms.

The system of selection of participants may work to bias the prioritization process. Established actors may remain in place while few new-comers are brought into the debate. In addition, small and medium sized firms are not well organized leading to under-representation in the decision making process. Therefore, the structure of the institution may become a barrier to funding of projects in small and medium sized firms and other low emission sources. As an immediate result, small firms in new industrial sectors have relatively little opportunity to obtain access to funding in comparison to larger firms in one of the three major sectors. This may be a significant future concern because low emission sources are now of strategic priority for the Department of Ecology (Katowice Voivodship Office, 1995).

Finally, the fund appears to be highly conciliatory in which multiple points of flexibility are apparent: negotiated fee payment; reduced interest rates; no interest *bonuses*. In general, it may be concluded here that the ecological restructuring is firm

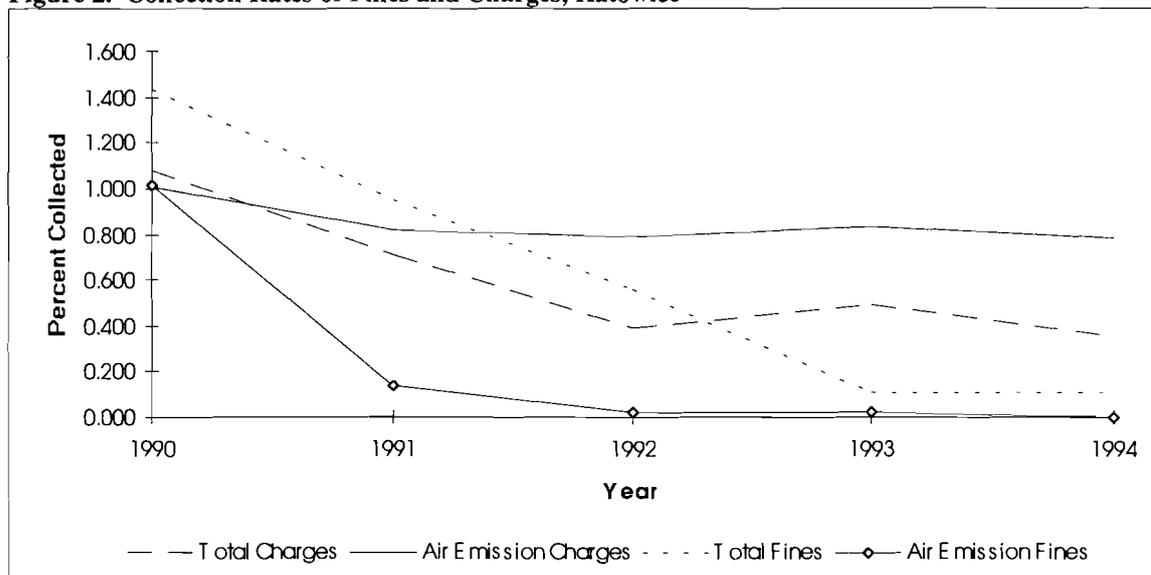
⁵ In general, the higher the priority the lower the interest rate (Szymborski interview).

lead and that government role is limited to investment and funding schemes to entice firms to comply with regulations. From a government perspective, as long as investments show emission reductions, this strategy is sufficient. Here there seems to be evidence showing the defensive nature of bureaucrats and a focus on attaining results, not on reforming the process in which results are obtained.

Fees and Fines

Polish emission charges remain high. In 1992 SO₂ and NO_x emission charges were set at 82 dollars per ton, while charges for particulate matter were set at 44 dollars per ton. (OECD, 1995; Slocock & Sowinski, 1996). In Poland, assessment levels of both charges and fines on air emissions have also risen dramatically from 1991 to 1994, with charges rising almost 250 percent and fines rising over 1000 percent. Officials admit that these policies are revenue enhancing rather than emission-reduction oriented. Fee and fine levels would need to be much higher to act as economic instruments for pollution reduction (OECD, 1995; ifo, 1993; Slocock & Sowinski, 1996). However, as Figure 1 shows, there is a significant difference between what is assessed and what is collected - especially in the case of fines for air emissions in Katowice⁶. While approximately 80% of air emission fees assessed are collected, nearly no fines for air emissions are collected. This points to a very different emphasis on implementation of policy instruments that deserves further analysis.

Figure 2. Collection Rates of Fines and Charges, Katowice



Source: Urząd Statystyczny w Katowicach, 1994

In practice, the fee and fine system is highly flexible and contains multiple loop holes. In terms of the accuracy of information, the Ecology Department relies entirely on the firm to produce an accurate account of its own emissions. The Ecology Department does not inspect firms - this is the task of the State Inspectorate. However, the State Inspectorate is only an 80 member agency in one of the most heavily industrialized regions of Poland. As such, the Inspectorate "is only able to inspect the largest plants on a regular basis (Slocock & Sowinski, 1996)." Fines are also rarely if ever paid because they are reduced or deferred as a compliance incentive (OECD, 1995), or

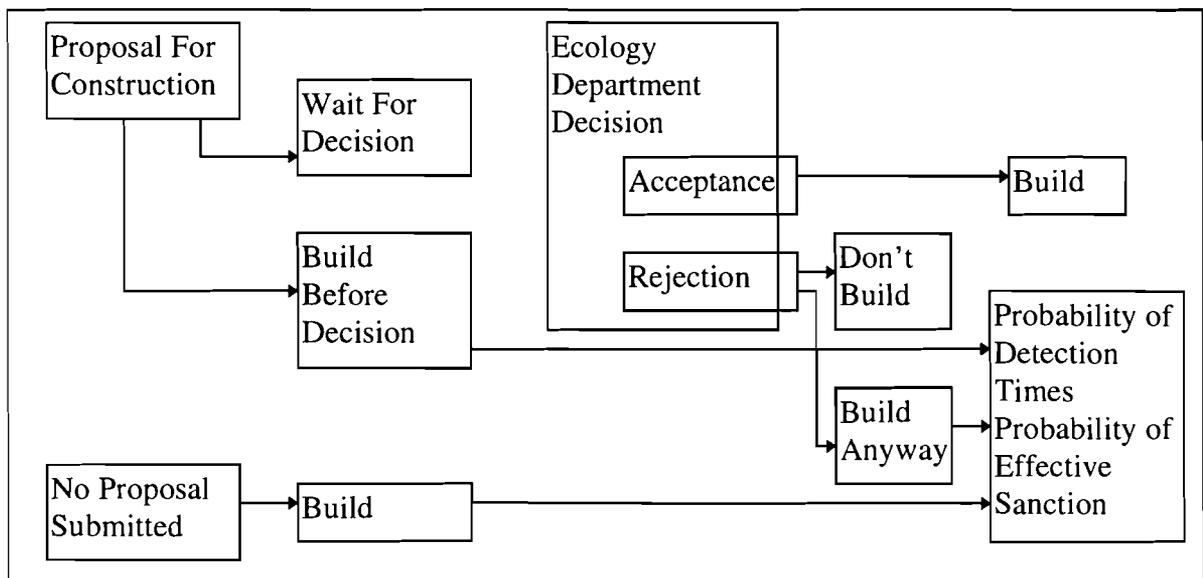
⁶ Although the trend is similar for Poland (Główny Urząd Statystyczny (GUS))

eliminated based on investment in pollution abatement technology. Fines are not set to the inflation rate further removing the incentive to delay payment (OECD, 1995; ifo, 1993). In addition, the separate administrative function of fine assessment and collection by the State Inspectorate and Department of Ecology respectively, creates the disjuncture in the enforcement system mentioned above. Finally, while it is theoretically possible to close a firm as a result of heavy and unpaid fine levels, this rarely occurs in practice. For example, one large steel mill that is supposed to be officially closed due to heavy emission and significant arrears in fine payment, continues to operate in Katowice. This is because there are large social disincentives to closure of industrial facilities such as unemployment and economic prosperity (Sowinski interview; Szymborski interview). As a result of this entire scenario, firms have low incentives to provide accurate information and, relatedly, government agencies have low capacity to inspect and enforce compliance. It is not surprising, therefore, that fines collection levels are low.

With respect to the fee system, the incentives to pay are relatively obvious. As mentioned in the Fund case above, firms receive finance credits for construction comparable to fees paid; interest rates are low and no interest bonuses exist. In addition, fees are considered part of investment costs and are therefore included in proposals for funding. Therefore, the system directly subsidizes its own fee levels such that real fee levels are much lower than they appear. According to this scenario, it appears that the fee system bends over backwards to provide incentives for fee collection. In the meantime, the economic efficiency of the instrument is probably significantly compromised.

The concerns with the fee, fine, fund system are even deeper, however. While the permission to emit is a yes/no decision given by the Department of Ecology based on the expected emission report generated and submitted by firms, there are cases in which firms build with out submission of the report, build while a decision is pending, or build even if the decision is negative. The decision trees is shown and consequences are shown below.

Figure 3. Firm Decision Tree in Katowice



It is most likely that many of these firms are small firms with relatively minor (in comparison to large firms) construction plans and emission levels. Nevertheless, as a group these firms represent a significant proportion of Katowice industry and pollution. The fee/fine system which together funds about 45% of all expenditures on pollution abatement, combined with an estimated 30% of the enterprises own funds dedicated to such projects, means that firms fund 75% of their own environmentally related projects (Preisner & Pindor, 1995). Because transaction costs are higher for small firms and the probability of detection and sanction are low, new source emission from small and medium sized firms is problematic. This presents a major problem for future ecological development in the region - as yet addressed only as targets in planning reports (Katowice Voivodship Office, 1995).

Conclusions

In general, the hypotheses developed earlier in the paper tend to find support in this analysis. Competing socio-economic concerns of economic health combined with economic individualism and a rejection of social collectivism contribute to organizational fragmentation in general, but most obviously affect the organization of economic and environmental interests. Traditional actors and relationships are still very much intact and even new organizational structures such as the Voivodship Fund, systematically reduce the potential for inclusion of the complete set of society's interests. This fragmented organizational system is also manifested in the separation of administrative tasks between levels of government. This results in autonomy of the Voivodship Department of Ecology being undercut by the limited enforcement capacity, power, and impact of the State Inspectorate (hypothesis B). While this system probably works for those large firms who benefit from the incentives of the ecological fund, it probably is detrimental to encouragement of environmental behavior by non-participants (i.e. small- and medium-sized firms).

Large firms, which admittedly are also large polluters, have received the majority attention by government as a result of their environmental obviousness, traditional stature, and economic importance. As a result, environmental policy instruments and limited administrative capacity work in favor of these large firms. The accompanying fragmentation of administrative power (low capacity and divided structure) results in implementation practices favoring the economic needs of large firms. The effectiveness of and the current implementation process in the long run as a driver of pollution abatement of low emission sources including small and medium sized firms, and individual households is questionable. These policies and their implementation cater to historically and traditionally entrenched interests in the region and probably act as barriers to dealing with the increasingly numerous, small, and less powerful actors (polluters). This is a critical point because current trends of economic individualism and rejection of social activism may be producing an even greater threat to future environmental welfare than previously considered.

Therefore, it is possible to see that economic and environmental concerns (hypothesis A) are not considered to be in competition if the economic self-interests of the powerful large firms and dominant industries are assuaged. On the other hand, the dominance of state ownership creates no market through which rationalization might occur. The continued delay of market restructuring means that environmental policy

instruments and implementation processes reinforce the traditional position of large state enterprises. Inversely, and more seriously, for the small and medium sized firms and individual polluters, economic and environmental interests are at significant odds. With the limited administrative capacity focused on large firms, there is little check on shirking or non-environmental behavior, nor is there much incentive for the increasing number of small polluters to comply with regulations. Existing environmental policies, while probably designed with the best intentions, may only be effective for those entities who have always been a part of the system (hypothesis C).

Future problems such as emission abatement in small and medium sized firms, district heating and gasification will not be well addressed by an administration - limited power from division of authority and bureaucratic inertia - that caters to entrenched interests on the one hand and that focuses on results - most easily gained by putting filters on the limited number of large emitters - on the other. Nor will future environmental problems be solved by reliance on policy instruments designed with high compliance incentives and low demand for results. These issues will need to be addressed not simply from the perspective of new instruments, but also from the perspective of repair of the fragmentation of organizational interests, citizen access and inclusion, and a break with administrative inertia that continues to focus on large emitters. Unless these issues are dealt with, the economic transition currently underway may be increasingly hampered by stagnating improvements in environmental conditions.

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