CHAPTER-3

SYSTEMIC TRANSFORMATION AND ENVIRONMENTAL RECONSTRUCTION IN CENTRAL AND EASTERN EUROPE
The transition in East Central Europe (ECE) created a general optimism, which was reflected in a belief that a solution to the environmental problems faced by these countries would be found. There were great expectations regarding the blessings of the market economy, which would diminish state-guided waste and pollution, the political openness, which would arise from democratization.

The economic scope for funding environmental protection measures is limited in Central and Eastern Europe and imports of emission-reducing technologies and equipment from other countries can normally only be paid for by increasing the level of exports. The Poland and Hungary have made considerable progress in transforming, policies, institutional framework, new banking policies and new legal framework.¹

- The reforms being undertaken by Eastern European and Central Asian countries for their transition from centrally planned to market economies offer unique opportunities for pursuing sustainable development and for generating resources to finance it.² From the standpoint of ordinary people in Eastern Europe, the transition process forced upon them institutional changes alien to beliefs and behaviors embedded in the fabric of community life (the more so, the farther to the east). They experienced the switch of one set of institutions for another, neither of which they chose for themselves. In most East European countries, privatization programs ultimately favored former no menkla turists, the Czech Republic being perhaps the only exception. Expectations regarding central government investments and reestablishes local responsibility for environmental management.

- **Privatization** opens the door to private capital and foreign investment, part of which can be directed toward more efficient and cleaner technology as well as toward pollution control and abatement equipment.


• **Price Reform**, the freeing of prices of commodities, the removal of underpricing energy and natural resources, and the move toward world prices promises both increased efficiency in the use of scare resources and reduced waste when combined with secure property rights.

• **Fiscal reform**, combined with price reform and privatization, effectively removes the soft budget constraint faced by state enterprises in a centrally planned economy.

• **Industrial restructuring**, the reduced reliance on energy intensive industry and the closure of inefficient, often heavily polluting industrial plants, results in the reduction of the worst forms and sources of pollution.

• **Trade liberalization** has made multiple contributions to the financing of the environmental investments by making the necessary foreign exchange available, the less-polluting production and pollution abatement technology accessible, and private capital flows and direct foreign investment attracted to the country.

• **Monetary reform** can make significant contributions to the effective financing of sustainable development by controlling inflation and ensuring a stable and convertible currency and low real interest rates as well as reduced general economic uncertainty.

• **Banking and capital reform offers** unique opportunities for innovative financing of environmental investments.

• **Environmental policy reform**, in conjunction with economic reforms, offers the opportunity to introduce more realistic and enforceable environmental standards, to design attainable compliance schedules, and to shape a consistent structure.
TRANSITIONAL CONSTRAINTS

Unless there is attention given to developing institutional capacity, sustainable development will remain an imaginary exercise. Issues of governance and sustainability are critical in the twenty-first century. They are fundamentally about the relationships that define resource distribution globally. They are also about the consequences of the choices that are made in the name of development. The challenge of ensuring sustainable development looms larger than ever in the minds of those involved in public affairs. Policy choices by powerful governments and international organizations and their concomitant advice have benefited only a small portion of the world’s population. In many cases, nations are not facing simple development challenges, but fundamental crises in relation to war, famine, poverty and human survival. Building quality governance for sustainable development in these conditions is a daunting challenge; especially when large portions of national revenue in developing countries are aid depend

Despite these opportunities there are also many formidable constraints and challenges inherent in transition that hinder the effective financing of environmentally sustainable development. First, there are the many legacies of the centrally planned economy that persist at varying levels in different countries. The soft budget constraint is hardened in Central Europe but remains soft in Russia and parts of Central Asia. Energy and water continue to be under priced and even outright subsidized in most transition economies. The resulting wasteful use and inadequate cost recovery contribute to a large financing gap for infrastructure, public utilities, and environmental services, such as sewage and sanitation.3

Excessive industrialization, the over promotion of heavy industry, and the over reliance on low-quality domestic coal for energy in the past have left legacies that continue to be a source of unsustainable development and a drain on scare financial resources. Overly ambitious environmental standards that are selectively or

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erratically enforced are another legacy of the centrally planned era.4

Added to these legacies of the centrally planned economies are the challenges and uncertainties of transition, a period of flux, short-term planning horizons, and a 'wait and see' attitude. Environmental policy in particular is evolving, standards are changing, and enforcement is variable.

While domestic capital markets continue to be poorly developed and financial institutions are weak throughout the transition process, governments of transition economies are generally unwilling to increase their foreign debt by borrowing abroad, especially for the environment, which is not directly associated with a stream of revenues to ensure repayments.5

The transformation of former planned economies towards a market system is extremely difficult from an economic, political and social point of view. Among the specific measures required are:6

- Privatization of state enterprises, which must then be run according to the principles of the market economy, in particular profit maximization and the use of the capital markets to obtain finance. Private ownership of the means of production, and thus a large number of owners who bear individual responsibility, is the key to a practicable ownership must be protects rights of use.

- The legal framework also provides the basis for legally binding contracts and legal business transactions, without which it would be impossible to exchange goods and service on markets or to enforce any rights (e.g. the problem of liability). Firms in a market economy, under competitive conditions at least, are subject to systematic pressure to push costs down; consequently, the available productive resources are efficiently used, and a range of products is developed which suits consumer preferences. Once

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relative world market prices prevail, firms can no longer afford to produce in
the energy-intensive and raw material-intensive way they did before. Competition of course also assures product innovations and, as result the
development of new risks to health and to the environment.

- The creation of a functioning labour market which, as the mobility of labour
increases in the longer term, will mean that regions whose environments are
no longer intact are likely to lose skilled employees as they migrate to new
and growing economic centres; privatization will expose hidden
unemployment in many industries, confronting many regions with high
unemployment levels. As long as these continue to be high in all regions, however, the potential migration of skilled workers out of environmentally
troubled regions will not initially exert very much pressure on environmental
policy-makers, either regional or central, to take action.

- Removal of price controls and reduction of subsidies (including those on
energy sources). Important signals are given to suppliers, competitors and
consumers by prices determined freely on the market. Under competitive
conditions market prices will tend towards the level of marginal cost,
although the State and private monopolies still in existence in many markets
will initially uphold higher monopoly prices. The withdrawal of subsides
(especially on monopoly prices), and possibly the promotion of renewable
sources of energy, will act as incentives to reduce the level of energy
consumption and promote the development of new and more energy-efficient
products for households and industry.

- Liberalization of foreign trade which results, on the one hand, in greater
pressure exerted by competing imports (and hence curtailment of existing
monopolies in the economy; on the other hand, the hope is that it will pave
the way for inflows of foreign capital, and special efforts are being made to
promote joint ventures with Western partners. After the dissolution of the
CMEA and the collapse of Eastern European intra regional trade, the former
member states are now conducting more trade with the west, and some
countries are aiming for EC membership in the long term.
• Decentralization of the entire economic management system and freedom to establish new companies (free choice of occupation or trade), which is important for structural change. New companies will especially tend to establish in the fields, which were neglected by the socialist, planned economy.

• The introduction of functioning capital and lending markets on which a positive real rate of interest creates an incentive to make efficient use of capital as a factor of production, which in turn will lead to less capital-intensive production or exert pressure in favour of a more efficient investment policy. Research on the ecological aspects of privatization in any economy making the transition from a command-and-control system to a market economy, should be based on the following theses:

Therefore, the environmental impacts generated by the privatization process are bound to be quite different from those generated by private enterprises operating in mature competitive markets, where scarce resources are allocated by price and where there is a potential for technological substitution.

1. The ecological effects of privatization cannot be 'isolated' from the effects of other aspects of the transformation, which include: macroeconomic stabilization; demonopolization; the substantial reform of such basic macroeconomic areas as price, tax, and commercial policies; and the development of industrial, energy, transportation, and agricultural policies.

2. Research into the relation between privatization and the natural environment must refer back to the systemic causes of environmental degradation under the old command-and-control system and Poland's specific patterns of economic development and industrialization.

3. At the present stage of economic transformation in Poland, the vast majority of enterprises, regardless of their ownership status, do not obey the rules described in standard microeconomic textbooks.

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4. The ecological impacts of privatization may differ in the long-and short-run: In the long run, the general increase in economic efficiency that is expected to result from the commercialization and privatization of state-owned enterprises may produce significant ecological benefits. But in the short-run, during the period of privatization proper, the natural environment controls on the privatization process.

5. Many liberal economists and politicians mistakenly believe that because the socialist economy caused an advanced degradation of the environment, the transition to the market economy will automatically solve the country's basic ecological problems. This assumption may prove harmful the development of sound ecological problems. Thus, while privatization may bring certain ecological benefits, it will not, by itself, improve the quality of the natural environment. It must be accompanied by an environmental policy that addresses the ecological externalities resulting from market failures.

**POLICY CHOICES FOR GOVERNMENTS**

Addressing the environmental, problems of enterprises undergoing privatization can help clarify the rights and responsibilities of new private owners in relation to the environment and thereby contribute to a country's environmental protection goals. It can also help privatization official's secure better prices for enterprises.  

A key question to ask, then, is not only ‘who decides’ but ‘how did this come about and who is excluded as a consequence?’ An exploration of how governance, as a concept, was linked to development and management demonstrates this point. The negative experience of structural adjustment lending, a resurgence of neo liberalism, the collapse of official communist regimes in Eastern Europe and the rise of pro-democracy movements influenced the increasing focus on democracy and development from the late 1980s (Hyden, 1992; Leftwich, 1993; Schmitz, 1995). It is during this period that the concept of governance was linked to notions of

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democratic participation and free market principles of economic development. Governance can be redefined within the context of global trends to accommodate not only the demands of economic liberalization but also the requirements of sustainable development. This requires moving beyond the dualisms of developed and developing, north and south, bureaucracy and managerialism that are commonly used, to seek new meanings for these taken-for-granted terms. The reality is that economic growth is required in order to deal with poverty. The notion of sustainable development offers a way forward only if it combines responsible public administration with effective resource distribution and democratic politics. Adrian Leftwich suggests that there are several conditions for ensuring

Environmental problems encountered in privatization can be grouped into two categories: unacceptable environmental effects from current economic activities and environmental damage left over from past economic activities. The first problem is a matter for regulatory controls—pollution abatement requirement, licensing, support of cleaner production and other measures. Privatization can be a time for determining what steps to take to reduce, for example, unacceptable levels of emissions from ongoing operations. Under the polluter pays principle the costs of such controls are considered a responsibility of private business community.  

Another environment-related problem in privatization concerns who should assume the risks associated with environmental damage that occurred during the period of state ownership. Past environmental damage can include:

(a) on-site environmental contamination;
(b) off-site environmental contamination; for example, from landfills of hazardous waste and air emissions;
(c) worker health problems related to past operations;
(d) injuries to health property of third parties, such as nearby residents

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POLICIES FOR DEALING WITH PAST ENVIRONMENTAL DAMAGE

Privatization officials can use privatization environmental evaluations of a property to spot in advance those problems likely to be concern to an investor. Preprivatization evaluations can also help environmental authorities to ascertain the extent of past environmental damage problems and determine whether measures are needed to reduce any unacceptable risks to human health. A due diligence environmental liability audit is usually the starting point. Baseline environmental audits can document which problems existed before a property's transfer and thereby help to control an investor's liability for future environmental problems.11

Where countries are proceeding rapidly with large-scale privatizations, as in the countries in transition, and environmental audit may not be economically or administratively feasible for every transaction. At a minimum, however, enterprises slated for privatization should at least be screened to determine whether serious environmental problems are likely.12

If environmental problems are found, a decision will need to be taken concerning the relative priority of the problem and the best way to address it. Because many instances of past environmental damage are quite localized in their impact, the higher priority may be focus on reducing the environmental effects of ongoing economic activities.

This is where clear legal rules and policies concerning allocation of responsibility for past environmental damage can be essential. The package of policy decisions for dealing constructively with environmental issues in privatization should address at


least the following questions:\textsuperscript{13}

- Who should be responsible for environmental problems caused during state ownership the new private owner or the government?

- If the government assumes some responsibility for an enterprise's existing problems, how should this be worked into the privatization deal? For example, what assurances should be given to the private investor?

- Should there be cleanup if an enterprise has serious environmental problems, and if so how decisions concerning the scope of the cleanup should be taken?

- How should the costs of state-funded remediation be financed?

The issue of who should pay for past environmental damage—the state or the new private owner—has to be decided by each government in light of its own priorities and financial capabilities. The basic legal rule is that liability for past environmental damage is transferred to the new owner unless the buyer and seller agree otherwise. An insistent investor can negotiate such concessions as a reduction in price or reimbursement of cleanup costs.\textsuperscript{14}

The trend is for the state to assume at least a share of liability for environmental problems that occurred during the period of state ownership. This has been the choice of countries as diverse as Bulgaria, Estonia, and the United Kingdom. Methods of dealing with the problem include the following:\textsuperscript{15}

- Indemnification for past environmental damage—related costs incurred by the new owner. In some countries, such as the Czech Republic and Germany, governments have agreed to cover the costs of cleaning up certain high-risk past environmental damage.

- Simple price reductions have been used frequently in Central Europe. Under this option the buyer pays a lower price for the property in exchange for


\textsuperscript{15} Kolaia, Thomas, "Getting beyond the Environmental Liability Conundrum in Central Europe's Privatization Programs),” Second Annual World Bank Conference, Lucerne, Switzerland, 28-30 April, 1993, p. 164.
assuming the risk of a future legal action or cleanup order related to the past environmental damage.

• Set-asides of purchase funds to cover estimated costs of cleanup have been used in many countries, including Hungary and Poland.

• Indemnification of investors is one of the most cost-effective strategies for governments, provided the indemnification is carefully drawn.

• A system of cost-cleanup.

CLASSIFYING POLITICAL SYSTEMS IN TRANSITION

To determine the effects of different types of political systems on the capacity of governments to adopt and sustain economic reforms, it is important to first differentiate the range of political systems across the transition economies. One of the most important features of this variation has been the political contestability in the new regimes, that is, the extent to which key decisions of the political process—such as choosing political leaders, adopting laws, and making binding policy decision—are subject to challenge by freely organized groups in and outside government. Political contestability can be determined along several different dimensions: 16

• Political rights and civil liberties: The ability to challenge political decisions require the rights to participate freely in the political process and to express one’s views. Indicators of political rights and civil liberties can measure the extent of such rights.

• Veto Points: The clearest institutional manifestation of political contestability is the right to veto political decisions. Different types of political systems have different numbers of “veto points,” that is, institutional actors who can veto political decisions.

• Government turnover: Political contestability can also affect the turnover and tenure of governments. Frequent government turnovers suggest a high degree

of political contestability and shape the perceived competitive pressures on incumbent governments. Of course, excessively high government turnover could be a reflection of underlying political instability.

- *War and Political violence:* The outbreak of war or political violence, often with ethnic or regional cleavages, indicates extreme contestability over the boundaries and basic organization of the political process.

**Fig: 2.**

**Classifying Political Systems in Transition Economies, 1990-1999**

<table>
<thead>
<tr>
<th>Country</th>
<th>Average rating of political and civil liberties</th>
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<tbody>
<tr>
<td>Czech Republic</td>
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<td>Slovenia</td>
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<td>Hungary</td>
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<td>Slovak Republic</td>
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**Competitive democracies**

**Concentrated political regimes**

Note: Ratings are based on the average scores for political rights and civil liberties ranging from 1 (free) to 7 (not free) by Freedom House from 1990 to 1999. The thresholds for determining the country groups are: competitive democracies, political rights < 2.0 and civil liberties < 2.5; concentrated political regimes: political rights or civil liberties > 2.5; noncompetitive political rights or civil liberties > 5.0.

Source: Freedom House (various years).
Developing exact measures of these characteristics for transition economies is difficult given their rapid change. But a combination of indicators allows economies to be classified into four "ideal types" based on the extent of political contestability.\textsuperscript{17}

i) Competitive democracies
ii) Concentrated political regimes
iii) War-torn regimes
iv) Non-competitive political regimes

\textbf{FIG: 3}

\textbf{Veto Points Index, 1989-1999}

<table>
<thead>
<tr>
<th>Country</th>
<th>Veto Points Index</th>
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<tr>
<td>Czech Republic</td>
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<tr>
<td>Slovenia</td>
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<td>Hungary</td>
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<td>Romania</td>
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\textbf{Competitive democracies}

\textbf{Concentrated political regimes}

\textbf{Veto Points Index}

\textit{Note:} The index for each country is based on the average monthly from the onset of the transition through mid-1999 on a scale of 0—4, defined as:

0 = One-party government with noncompetitive elections.
1 = One-party majority parliamentary government or united presidential government
2 = Two-party coalition parliamentary government or divided presidential government.
3 = Three-or-more party coalition parliamentary government.
4 = Minority parliamentary government.


\textsuperscript{17} Ibid, p. 97
The accession countries in Eastern Europe are included in the first two categories. To measure the extent of economic reform, we rely on the European Bank for Reconstruction and Development's transition indicators (EBRD 2000), which evaluate annual progress in transition countries for different categories of market-oriented reform on a scale from 1 (little or no reform) to 4.3 (standards typical of advanced industrial economies). Competitive democracies have made the greatest progress in implementing market-oriented reforms, while the noncompetitive regimes have made the least. Concentrated political regimes and war-torn regimes have made partial progress, advancing in some areas and lagging behind in others.

The first stage of the transition process was marked by liberalization of prices, trade and exchange rates plus small-scale privatization. Further privatization (especially large-scale), industrial restructuring and financial sector reforms are the leading trends of the second stage. Output recovery has continued in the most advanced transition countries of Central Europe, while the decline in industrial production in Russia has slowed considerably. Expansion of trade links with the EU has been an important factor of output recovery in the region. Future growth will be powered by gross fixed investment and use of the vast underutilized supplies of skilled labour. The investment needs are enormous, dictated by the necessity to replace the obsolete capital stock, restructuring of enterprises, as well as physical infrastructure and housing requirements. There are, however, many challenges and problems that need to be overcome before the growth potential can be realized, including: availability of finance; deepening of reforms; and restructuring of large inefficient state companies.

CONFLICTING OBJECTIVES

Reshaping the economy to conform to market principles is intended to produce greater economic efficiency, which may also lead indirectly to an improvement in the chances of protecting the environment. Firms under pressure to minimize costs will be forced to reduce their raw materials and energy inputs and will also be given incentives to innovate. In this situation, environmental protection measures which will force up costs will, if positive long-term effects are disregarded in a short-term outlook, be perceived as additional risks to the safeguarding or creation of jobs. In
reality though, adjustment measures—which are equally prudent from the ecological and economic viewpoints in the long term are very difficult to implement when faced with a shrinking economy.

A prime area in which there is a fundamental contradiction between the ecological potential for modernization and what is realistically possible is the energy sector. If more natural gas, which is low in emission, were to be used instead of coal, this would represent an initial ecological modernization move on the input side of power and process heat generation. Hungary is so far the only country to have made early moves to set the scene for improvements in the energy structure and in energy-intensity, which fell by 140/0 between the period 1989-2000. The governments, expects it to fall further by 27% in the period 2001-2010.  

Considerable ecological advances can also be expected to be made by private households, particularly by modernization in the housing sector. Previously, the domestic energy prices were considerably below those on the world market, which means that as prices gradually come up to international levels there is great need for adjustment. A transition to world market prices for energy inputs has clearly been introduced by price reforms in the some CMEA countries that are expected to produce incentives to save energy, so long as companies are already responding in market terms. More energy-efficient products would have to be developed and the appropriate inputs obtained in domestic and foreign markets, since companies can no longer take it for granted that they can sell almost any thing they produce, as they could when demand always exceeded supply in the socialist “shortage economy”.

MARKET-CONFORMING INSTRUMENTS

In addition, environmental policy—if not to stay the whole of economic policy—now has to be operated according to different principles since the state, once enterprises are privatized, loses its direct control over corporate decisions relating to research, production, transport and sales. It is now mainly by establishing an appropriate general framework that governments can attempt to influence economic

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developments in directions, which suit overall policy goals. It is necessary to create new economic institutions (bank and stock exchange supervision, unemployment insurance etc.) and also to define different levels of responsibility for central government, regions and municipalities.

The democratization of political life finally brings with it new opportunities for various political groups to push through ecological aims. Political competition and a now increased number of parties assure that environmental aspects will gain increasing importance in the struggle for votes and power.

Before the aims of the transformation process can be achieved, a transitional phase is unavoidable which will be characterized by many conflicting aims, insufficient methods of control (the old ones no longer apply, new ones have not yet been passed or taken effect) and deep recession. The political situation is also one of many contrasts during this phase: they exist between the ruling and the opposition parties, between former Communist Party members and the capitalistic parties now in charge, thus making it difficult to achieve any political consensus. 19

Taking a realistic view, one has to assume that only limited attention will be given to environmental problems during the first few years of system transformation. Only in the longer term can a raise in per capita incomes be expected, and only then will there be an easing of tension between the conflicting aims of growth versus environmental protection.

NEW PROBLEMS

Nevertheless, transition to a market economy will also mean new environmental problems. These problems will be seen in the packaging industry, which threatens to give rise to an aggravated waste problem, in industry-oriented advertising and in growing numbers of automobiles and road transport services. These are the sectors in which the Eastern and Central European states must be careful to take over the positive and ecologically progressive innovations of the west rather repeating its mistakes. Inherited socialist bureaucracy means that “de-bureaucratization” will be an ongoing task.

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19 Ibid, p.259.
Reforming countries will increasingly suffer traffic problems, especially with the existing, largely outdated, infrastructure (and the public-sector budgetary problems). A reduction in the vertical integration of enterprises during the transition to the market economy, combined with the plans to open up economies to foreign transport between suppliers and downstream manufacturing stages. An increase in NOx and CO emissions is to be expected as a result. The changeover to unleaded petrol and to cars equipped with catalytic converters as standard could keep traffic-generated emissions within limits.

It took Western countries many years of experience before they developed ecological solutions in a large number of sectors. These solutions chiefly include recycling, returnable packaging, ecological waste utilization (collecting base materials for recycling, separation of types of waste), environment-friendly household and chemical products, and modern transport systems with reduced emissions, in particular smaller cars equipped with catalytic converters. In order to make such solutions acceptable to society, it is necessary to implement campaigns to raise consciousness on a broad scale, improve education and training and extend the responsibilities and expertise of relevant authorities.

Another problem is the rise of the urban sector characterized by demand of office space. The evolution of property markets within central European countries is an integral part of the economic transformation which is taking place in the transition from command to market economies. Indeed the performance of property markets is closely interwoven with wider influences in the macro-economy. Although the study countries of the Czech Republic, Hungary and Poland have made significant advances in per capita GDP since 1992, this has been achieved against a backdrop of high rates of inflation and high short-term interest rates (Table 1).

The transformation from the socialist city characterized by an absence of a land market, fixed prices and nationalized businesses (Musil, 1993) to the post-socialist city has been facilitated by commercial property development which in turn has substantially contributed to the reorganization of land use within central European cities (Sykora & Simonickova, 1996). Demand for property in particular office space has generated development in central city and some inner city locations promoting economic revitalization with consequential effects upon land use patterns. With
globalization, cities in central Europe are performing gateway functions, indeed Prague, Budapest and Warsaw are major entry points for foreign companies seeking to expand their operations (Drbohlav & Sykora, 1997). Hungary was the first of the central European countries to re-establish the market environment placing Budapest in a prime position regarding the attraction of foreign firms and investment, with Prague and Warsaw following. In each of these cities the property market was quickly established at the beginning of the transition with privatization programmes and policies concerning the liberalization of prices and rent deregulation acting as stimuli to the market. Furthermore liberalization of international trade opened up the property market to foreign demand for real estate.

This analysis of office markets within Prague, Budapest and Warsaw indicates that as capital cities they are being increasingly exposed to global influences in terms of investment flows, property development and occupier markets. The growth of indigenous firms within the business sector is indicative of growing maturity, however, the coincidence of dual markets with low levels of interaction between local and international actors coupled with the lack of property investment is characteristic of an immature market. It would seem that the convergence of property markets in central European cities with western cities would be a protracted process with the parallel need to develop local expertise and indigenous sources of financing to facilitate the integration of local and international markets.

VARYING PROSPECTS FOR TRANSFORMATION

The process of transformation runs in very different ways among the countries of Central and Eastern Europe. Each of the former socialist planned economies started with its own particular conditions and international environment. In Hungary, system transformation has made rapid progress through the removal of price controls, the decentralization of economic planning and the liberalization of foreign trade. Hungary was able to build on the reforms carried out since 1968, as well as on the relatively well-established trading relations with the GECD countries; however, Hungary's freedom to implement reforms is restricted by its very high foreign debt.

Competitive conditions are only being created gradually in Poland, Hungary, The Czech Republic and Slovakia. Given the dominance of large-scale enterprises compared to the situation in Western Europe, competition often cannot be created until the time consuming; conflict-ridden process of deglamorising these enterprises has been mastered. The modernization of large scale enterprises in heavy industry is has triggered considerable local opposition in so far as it is associated with unavoidable large-scale redundancies.

IMPORTANT ENVIRONMENT REGULATORY MEASURES

The practical overview of the Seven Countries who have taken lead in systematic environment transformation and proposed environmental regulations to examine how they relate to the environmental Guidelines for European Union integration.

All seven countries have made substantial reforms to their environmental legislation since 1989. The Czech Republic, Hungary and the Slovak Republic enacted framework environmental protection laws after 1989. Poland is in the process of revising its framework environmental law enacted in 1980 (Statute on the Shaping and Protection of the Environment of 31.01.1980). These framework laws aim to integrate progressive economic incentives into environmental protection, generate badly needed funds and improve compliance. Each country has also incorporated economic incentives into many new laws related to specific media such as water, air, waste and packaging. These new laws not only help improve the environment, but also provide opportunities and jobs in the environmental business sector. Strict environmental legislation existed in the past, but was often impossible to enforce. This was because the state was both regulator and polluter and because many industries and factories were 'exempted' from the law in order to fulfill strict production quotas. Though the region's track record of enforcing environmental legislation is poor, officials in all four countries are confident these new mechanism will complement traditional command and control policies.

a.) ENVIRONMENTAL LEGISLATION IN POLAND\textsuperscript{21}

As part of Poland's efforts toward European Union accession, lawmakers made dramatic changes in the country's environmental legislation in 2001, so that the laws

\textsuperscript{21} ________ , "Ministry of Environment Poland, Environmental Report No. 10, World Bank, 26."
could be in harmony with the regulations set down in the EU acquis. While the broad nature of the changes makes it impossible to go into detail on all of them, we will attempt to give a sense of the new landscape of environmental legislation in Poland.

The most important new Polish legislation is the Environmental Protection Law (published in Dziennik Ustaw nr. 62 poz. 627), which went into force on October 1. The Environmental Protection Law has amended numerous other regulations as well, for example, spatial planning provisions, the water law, the Environmental Inspection Act, the Nature Protection Act, the Paid Highways Act, provisions on protection of agricultural and forest land, local government responsibilities regarding waste management, provisions on asbestos decommissioning and principles for regional development.

The Environment Protection Law deals with access to environmental information, giving a catalogue of information that has to be disseminated and elaborating on the forms of such dissemination. The law also covers public participation in decision-making about environmental issues. Furthermore, the Environment Protection Law deals with a broad range of other issues, including all modes of environment protection, environmental impact assessment, permitting procedures, emission standards, industrial accidents, financial measures of environment protection, environmental funds, environmental responsibilities of the authorities, including local government bodies, industrial accidents prevention, control, registry, training, emergency or contingency plans for industries at considerable risk of accidents, administrative and penal sanctions.

According to this law, the government is obliged to formulate a new environmental policy by the end of 2002. Local governments must formulate such policies later. Poland has also introduced new environmental use charges, which apply to air pollution, water pollution or water use and waste dumping. The charges depend not only on the kind of activities undertaken, but also on the quality of water used and the region of the country where such activities take place. There are also fines for noise, water and soil pollution. Law uses 20 percent of these fines used to fund environmental inspection authorities.

Another new Polish environmental law is the act on entrepreneurs' responsibilities
regarding management and recycling of specific types of waste, as well as fees for production of certain items (published in Dziennik Ustaw nr. 63 poz. 639), which came into force on January 1. The law provides a schedule of fees that will be charged on non environmentally friendly products, listed in the act, and other products, such as some containers, batteries, tires, oils and cooling or freezing appliances. Recycling of products mentioned by the act is the responsibility of businesses, but the law does not apply to small businesses.

Another act produced in 2001 covers packaging and the waste that packaging generates, (published in Dziennik Ustaw nr. 63 poz. 638). This law makes it the responsibility of the package producer to label packages appropriately and indicate the possibility of recycling. And the seller of the products has to inform clients about collection of containers - and their recycling, management and labeling. Shops that are bigger than 25 square meters and sell beverages in non-recyclable containers have to offer similar products in recyclable containers - and collect and return the recyclable containers. Failure to adhere to these provisions is subject to a fine.

b.) HUNGARY'S ENVIRONMENT LEGISLATION

Hungary issued one of the most progressive new pieces of framework legislation in June 1995 when its Parliament passed the Act on the General Rules of Environmental Protection. This Act, in force since January 1, 1996, places reporting requirements on polluters and prepares the framework for levying 'green taxes' and product charges on environmentally harmful goods and activities.

- National Environmental and Nature Conservation Policy Concept 1995
- National Environmental Program 1997-2002, and its Annex H:
- Hungary ratified the Convention on Biological Diversity in February 1994 and it has been enacted by the Parliament as an Act (No. LXXXI of 1995).
- Act No. LIII of 1995 on General Rules of Environment Protection
- Act No. LIII of 1996 on the Conservation of Nature
- Act No. LIV of 1996 on Forests, Forest Management and the Protection of Forests

c.) CZECH REPUBLIC ENVIRONMENT LEGISLATION


Overview of the most important legislation:

- Act No. 114/1992 on Protection of Nature and Landscape in the wording of later regulations
- Act No. 16/1997 on Conditions of the Import and Export of Endangered Species of Wild Animals and Plants. In the wording of later regulations
- Decree No. 395/1992 of the Ministry of the Environment implementing some of the provisions of the Act No. 114/1992 in the wording of later regulations
- Decree No. 82/1997 of the Ministry of the Environment executing some provisions of the Act No. 16/1997
- Act No. 289/1995 The Forest Act
- Poland: Framework Statute of Environmental Protection (started in June 1995), a new Water Law (submitted to Parliamentary Commission on 20 September 1995), new and modified air regulations (now before Parliament), and a new Waste Law (due to be adopted shortly).

d.) ENVIRONMENT POLICY IN SLOVAKIA


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23 Ministry of Environment Czech Republic, Environmental Report No. 10, World Bank, 44.
e.) BULGARIA ENVIRONMENT LEGISLATION

The international agreements, signed by Bulgaria, relative to biodiversity conservation, sustainable use, and the equitable sharing of benefits arising from the use of genetic resources, gives important orientations for biodiversity conservation in Bulgaria. The following special environmental laws are currently in effect:

- The Nature Protection Act
- The Nature Conservation Act
- The Protected Areas Act
- Directive 92/43/EEC for Protection of the Natural Habitats and Wild Flora and Fauna
- Regulation 338/97/EEC for Trading with Species of Wild Flora and Fauna

Harmonisation with the European legislation for Nature Protection The following directives and regulations of the European Union are relevant for biodiversity conservation in Bulgaria.

f.) ROMANIA ENVIRONMENT LEGISLATION

A new law for Environmental Protection (Law no. 137/1995) was passed in December 1995. Romania is also an active participant in regional environmental initiatives such as the Danube Environmental Programme, the Black Sea Environment Programme, and the “environment for Europe” process. The Danube and Black Sea Programmes, albeit focused mainly on water quality improvement, have recognized the important relationship existing between land-use management, water quality and biological diversity conservation.

g.) ENVIRONMENTAL LEGISLATION IN SLOVENIA

First results of the changing policies from classical nature conservation approach towards more integrative appeared in the early 1990s in the Environmental Protection Act (1993), Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention, 1979).

Approximation process to the European Union has a high priority at national level. The goal is to harmonize national legislation to the Aquis Communitaire of the
European Community and to be able to implement it. In the field of nature conservation efforts are concentrated in implementation of NATURA 2000 network and controlling the wild life trade.

TOWARDS EUROPEAN UNION (EU) HARMONIZATION

Since harmonizing Central and East European (CEE) environmental law is in itself a very complex and dynamic topic, the aim of this workshop session was only to provide an overview of the current situation as it relates to the business community. The Czech Republic, Hungary, Poland and the Slovak Republic (the Visegrad countries) are all associate members of the EU, and hope to receive full membership status somewhere around the year 2000. To do so, they must ensure their legislation meets EU requirements.

To provide some guidance on this issue, the European Commission produced the White Paper in May of 1995 that presents the current situation in the associated countries and outlines the priorities for obtaining membership. Membership, and the promise of free trade that it brings, will soon become the most significant driver behind increased environmental protection activities and legislative reforms in Central Europe.

Representatives from all four countries stated that most of their domestic legislation was in principle, harmonized with EU legislation. However, the governments are still in the process of adopting or revising many of the required implementing regulations and enforcement actions. Workshop discussions in all four countries highlighted the following challenges that require more attention:

- Allocating domestic government funding for required infrastructure improvements
- Improving domestic environmental enforcement activities
- Locating domestic lawyers knowledgeable in environmental law
- Producing local language copies of existing EU legislation and supporting documents

• Keeping up with the development of new EU regulations.

Although stating commitments to the harmonization process, businesses identified the following challenges:

• obtaining state-of-the-art analytical devices that enable compliance with new stricter emission limits

• agreeing on common terms for hazardous materials, chemicals and best available technologies

• training domestic consultants to provide EU corporate and professional certifications

GOVERNMENTS INITATIVES IN ENVIRONMENTAL PROJECTS

The European Bank for Reconstruction and Development (EBRD) estimates that for these four countries to harmonize the environmental performance of industry and municipal infrastructure with the EU will cost upwards of USD 80 billion. The workshop presentations highlighted some positive solutions to the question of how to pay this price tag without stunting economic growth. One important step is that all four governments have established priority environmental projects against other social programs. 25

The National Fund for Environmental Protection and Water Management in Poland, for instance, now provides more than 25 percent of the over USD 1 billion the country spends on environmental protection annually. The situation is improving in the other three Vise grad countries as well, as funds generated by fines, product charges and green taxes continue to grow as economies expand. 26

Although these funds cannot finance all environmental projects, they do act as catalysts to encourage commercial investment. The healthiest indication that this encouragement is working is the increasing level of foreign investment for environment-related projects. At the Czech workshop, a representative of Mees

Pierson announced they are teaming up with EBRD to establish the Central and Eastern European Infrastructure Resources Partners Fund. This environment-focused venture capital fund, worth USD 40-65 million, will look to invest in companies undertaking environment-related projects in the Visegrad countries and the Baltic States.

Overall we see that in all the countries there is a problem of hazardous wastes that merits separate treatment. Issues of hazardous waste management are major concerns in the countries of eastern and central Europe. A National Institute of Environmental Health Sciences-supported conference was held in Prague, Czech Republic, as a part of a continuing effort to provide information and promote discussion among the countries of eastern and central Europe on issues related to hazardous wastes. The human and environmental impacts of the potentially toxic emissions from remediation processes in the form of byproducts continue to create regulatory attention and widespread public concerns. The challenge to industry to further reduce emissions of trace organics and heavy metals, as regulatory standards become increasingly stringent and public opposition to incineration increases is formidable.

These problems are endemic across the region, but the type and sources of contamination vary by nation. Rapid industrialization without any real environmental or health regulatory controls has placed enormous pressure on these emerging countries to deal with cleaning up contamination at the same time that their economies have other priorities. The placement of meaningful and realistic controls is competing with other important areas of these newly emerging economies.

The type and sources of contamination vary by nation, as do the steps necessary to remediate and gain a better understanding of any potential health consequence resulting from the placement and use of either existing or new environmental control/remediation technologies.

Central and eastern Europe have attained incredible potential since the fall of the Soviet Union. Many countries in the region have emerging market economies with steadily rising gross domestic products and falling inflation. For example, the Czech

27 Ministry of Environment Czech Republic, Environmental Report No. 10, World Bank, 64.
Republic has an unemployment rate of approximately 3-5%, and although there was severe flooding in 1997, Czech banks are in good shape to deal with its ramifications without a monetary problem emerging.

(1) Similarly, Poland is dealing effectively with the 1997 flooding (considered the worst natural disaster in centuries and causing billions of dollars in damages) both economically and from a public health perspective.

(2) Economic growth in Latvia was just under 3% in 1996 and inflation was the lowest in the Baltic states at 7.3%, while economic growth in Lithuania was 3.6% in 1996 and 7.6% in 1997.

(3) Hungary recently received a World Bank loan of $60 million to boost power supplies needed to meet electricity demands. Ukraine has teamed up with Romania and Moldova to form a free economic zone, increasing the potential for foreign capital and private investment. The International Monetary Fund for its efforts in economic reform measures has praised Bulgaria.

(4) On a more regional level, the European Union is to begin working with Hungary, Poland, the Czech Republic, Estonia, and Slovenia to improve and expand the transportation infrastructure through road construction.

(5) This will greatly increase commerce, investment, and economic growth as the European Commission moves forward with a program to create 10 corridors from the Aegean Sea to the Baltic, and from the German border to Moscow. The European Bank for Reconstruction and Development estimates that the total infrastructure bill for eastern Europe is between $200 and $300 billion.

One goal of sound robust economies is to be able to prevent exposure and reduce risk of disease for their citizens. Preventing exposure will reduce risk and accordingly the cost to society—monetary, social, and psychological—will be reduced, and the public's health will be improved. However, it is imperative to define what is entailed in preventing exposure, such that cost-effective decisions can be made based on an accurate estimation of risk. In addition, exposure assessment must be linked with an individual's genetic susceptibility to develop a more realistic prevention strategy.
LACK OF ESTABLISHED MARKETS

Experts have often cited the lack of an established market of environmental goods and service providers as a critical factor impeding environmental improvements in industry. The aim of this session was to present the status of the environmental goods and services market in each country.

The combination of reformed regulations and increased investor confidence has finally produced the fertile environmental market that many expected five years ago in Central Europe. Environmental investments from the private sector and government, estimated at USD 2.5 billion in 1995 for these four countries alone, are expected to grow at an annual rate of 20 percent.

A study by the REC estimates that approximately 2000 companies provide environmental services and products in this market. The current status and rate of growth are different for each sector and each country. Overall, Poland has the largest market for environmental goods and services followed by the Czech Republic, Hungary and finally the Slovak Republic. On average, companies in the region are small-to-medium in size and most active in projects related to water protection. Furthermore, on average these companies earned most of their income from the sale of technologies and products (44 percent). This was followed by income from the sale of technical services (40 percent) and (16 percent) laboratory activities.

Although the situation is far from perfect, forecasts of continued economic expansion, the promise of free trade with Europe and reformed regulations provide an optimistic outlook for continued environmental business opportunities. Industry experts expect the greatest growth in the following three areas:

- infrastructure projects in large urban centers equipment

- upgrades in export-dependent industries

- municipal service industries in regional economic and transportation hubs

Specific information about the activity in this market and the information needs of environmental professionals can be found in the REC publication, The Emerging Environmental Market. Also, each country overview provides related details.

Central European companies are exploring the benefits of obtaining internationally
recognized environmental certifications as a method to increase international trade and to attract foreign investors. They are finding out very quickly what it took Western firms decades to learn; poor environmental management translates into increased operating costs.

One of the most promising certification initiatives is the International Standards Organization’s environmental quality standards (ISO 14000 series) for industry. ISO is hoping these standards become a mark of excellence as did their quality certification for manufacturing operations (ISO 9000). It was, however, difficult to locate case studies of companies that have already adopted progressive environmental management practices. Many local companies have accepted the need for good environmental management, but few have adopted specific environmental management systems.

This can be attributed to the fact that the international environmental management standards (ISO 14000 series) are still at least one year from being finalized. Furthermore, the draft ISO 14000 standards have received criticism from environmental groups because they do not require certified companies to publicly report environmental performance.

Two other promising ‘voluntary’ environmental management systems were presented during the workshop series: the EU’s Eco-Management Auditing Scheme (EMAS) and the Environmental Management System (EMS). The European Commission developed EMAS as an environmental auditing standard for companies within the EU. The EMS is a set of environmental management guidelines established by a collaborative effort involving the International Federation of Consulting Engineers, the United Nations Environment Program and the World Business Council for Sustainable Development. Many local environmental consultants attending the workshops expressed a desire to learn more about ISO 14000, EMAS and EMS certification and training programs. Similar to the corporate certification debate, environmental professionals operating in the four countries is exploring the benefits of obtaining an internationally recognized certification of their expertise. The aim of this session was to present certification

programs currently available to local environmental professionals and to discuss future trends and opportunities.

Currently all four governments offer certification and licensing programs for various activities to include conducting an environmental audit and preparing environmental impact assessments. Although the certification situation is different in each country, the following general deficiencies were highlighted during the workshop discussions.29

- new industries and international organizations may acknowledge the usefulness of government certifications
- methods and criteria for obtaining certifications are not transparent
- applications are not tested to demonstrate expertise
- existing certification programs do not require continued education or training

Various programs exist or are planned in each country to address these deficiencies. They include:

- adopting international guidelines for auditor certifications (Slovak Republic and Poland)
- transferring certification responsibilities to independent ‘professional’ organizations (Hungary Poland)
- modifying existing certification requirements to encourage continued education and professional training (Slovak Republic)

At the end of each workshop, attendees and panelists agreed that this type of ongoing dialogue between the business and government sectors is critical to achieving sustainable development in a market economy. Governments have the responsibility to communicate their environmental plans to the business community. Conversely, businesses have the responsibility of identifying the most innovative and practical methods of achieving these environmental goals. The REC restates its commitment to facilitate such an on-going dialogue.

PRIVATIZATION AND THE ENVIRONMENTAL RECONSTRUCTION OF CEE

The Union's environmental policy, as set out in the EC Treaty, aims to achieve sustainability by including environmental protection in EU sectoral policies, preventive measures, the "polluter pays" principle, combating environmental pollution at source, and shared responsibility. The acquis comprises approximately 200 legal instruments covering a wide range of fields, including water and air pollution, the management of waste and chemicals, biotechnology, radiation protection and nature conservation. Member States must ensure that an environmental impact assessment is carried out before approving certain public and private sector development projects.30

The European Association Agreement stipulates that Polish development policies must be guided by the principle of sustainable development and take full account of environmental considerations. The White Paper on the preparation of the associated countries of central and Eastern Europe for integration into the internal market of the Union (1995) covers only a small part of the environmental acquis, namely product-related legislation, which is directly related to the free movement of goods.

Since 1990 the levels of environmental fees and fines charged for pollution emissions and waste disposal in Poland were increased about 10 times in real terms. For many economic sectors and industrial branches, this caused a substantial rise in environmental protection costs as a percentage of total production costs. But in post-Communist Poland, the future diffusion of 'least-cost' or profit-oriented strategies for privatized enterprises should significantly increase their incentive to abate pollution and reduce resource waste.31

Two main sets of factors contributed to environmental degradation in socialist Poland:

First: The specific character of the socialist command-and-control economy and the

pattern of economic development in Poland.

Second: The inability of narrowly conceived environmental policies to counter the ecologically damaging effects of Poland's economic development.

The most important was the soft budget constraint on state-owned enterprises did not have to profit to survive, it did not matter that their production costs greatly exceeded the value of what they produced. Consequently, the energy and raw material-intensity of production in Poland's socialist economy was two to four times higher than the OECD average. The most important factors related to socialist Poland's inability to adopt and implement effective environmental policies included the following:

- Priorities for environmental protection were never clearly formulated.
- The system of environmental management was not adequately decentralized, and regional authorities lacked sufficient powers.
- The 'shortage economy' and the soft budget constraint of state-owned enterprises rendered economic instruments of environmental protection ineffective.
- The state's overlapping and conflicting functions as owner and regulator of polluting enterprises weakened the enforcement of environmental standards and other instruments of direct regulation.

There is general belief that the transition to a market economy should bring ecological as well as economic benefits. This belief, which is encountered both in the popular press and less often in research papers dealing with ecological and economic issues, is based on the fact that during the 1970s and 1980s most of the industrial market economies in the OECD achieved outstanding results cleaning up the natural environment and rationalizing the consumption of natural resources. Poland's remarkable environmental improvements have been facilitated by important institutional developments since 1989.33

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32 Ibid, p. 73.
**First:** First and foremost is that Poland became a democracy committed to the rule of law.

**Second:** Poland possesses the strongest market economy in the post communist world. Ironically, the first set of market reforms were instituted by Poland's last communist government of Prime Minister Mieczyslaw Rakowski, in a burst of free-for-all-laissez-faire, a full year before Leszek Balcerowicz's 'shock therapy' reform program took effect.

**Third:** Poland has an active and engaged civil society, a dense web of formal and informal groups operating outside the sphere of the state.

Some observers optimistically imagined that the collapse of communism crated an opportunity for ecological rebirth in Poland and throughout Central and Eastern Europe. Poland's economy emerged from recession in 1992; it's GDP and industrial production figures have been rising ever since. Since 1994 Poland has maintained one of the highest economic growth rates in all of Europe. Meanwhile, despite the 'pessimists' predictions that pollution levels would rise along with the Polish economy, most important measures of pollution have continued to decline significantly since 1992 (see Table below).

**Table 3**

<table>
<thead>
<tr>
<th>YEARS</th>
<th>GDP</th>
<th>Industrial-Production</th>
<th>Dust</th>
<th>Co2</th>
<th>N02</th>
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<td>-24</td>
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<td>-17</td>
<td>-18</td>
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<td>-12</td>
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<td>4</td>
<td>-26</td>
<td>-15</td>
<td>-8</td>
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<td>9</td>
<td>-18</td>
<td>-12</td>
<td>1</td>
<td>-5</td>
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</table>

Pollution emissions just kept falling

**Source:** COLE (1997, P.192)
partially transposes the large combustion plants directive. Preparations have been made to implement the Directive on integrated pollution prevention and control. A Centre for "Best Available Techniques" has been set up to this purpose, as has a pilot programme of integrated permits. The legal basis for alignment with the acquis regarding industrial pollution and risk management is in place. A regulation completing the transposition of the Seveso II Directive has been published.

Zones for air quality protection have been classified. There is no other progress to report. The air quality programme needs to be in place by the time Poland accedes. With regard to noise, a Law on the System of Conformity Assessment and Accreditation was adopted in April 2001. A regulation has been issued on noise emissions by equipment used outdoors.

In the sector of chemicals and GMOs (genetically modified organisms), transposition will be completed with the adoption of the Law on GMOs, the Law on Chemical Substances and Preparations, the Law on Biocidal Products and the Law on Substances that Deplete the Ozone Layer. A GMO Commission has been set up, as has a Chemical Substances and Preparations Inspection Office. Three regulations concerning Ozone-depleting substances have been adopted.

In the field of nuclear safety and radiation protection, the National Atomic Energy Agency has completed a programme on radioactive waste and spent fuel management in Poland. The Atomic Energy Law has been adopted. However, regulations implementing this law still need to be adopted to complete transposition of the acquis.

The administrative capacity of the Ministry of Environment and other environmental authorities has been strengthened, though it needs to be strengthened further. Training has been provided in particular as regards environmental impact assessment, water quality, Natura 2000, GMOs and noise. Monitoring capacity is continuing to be stepped up.

Poland has continued to invest in environmental protection, mainly through the National Fund for Environmental Protection. It has recently invested in monitoring. Such investment should be based on a comprehensive investment strategy. It stands at around 2 billion, corresponding to 1.7% of Poland's gross domestic product. Poland is participating in the European Environment Agency and the European
environment information and observation network.

Poland has been granted transitional arrangements with regard to the sulphur content of liquid fuels, volatile organic compound emissions from storage and distribution of petrol, packaging waste management, non-hazardous waste in landfills and shipments of certain wastes, urban waste water treatment, the discharge of certain dangerous substances, existing Integrated Pollution Prevention and Control installations and ionizing radiation from medical equipment. Poland's initiatives toward environmental protection and sustainable development are moving ahead, though more slowly than economic reform. MEPNRF, early in 1990, negotiated two important programs with foreign assistance. The World Bank provided a loan of $18 million for the ministry to undertake a four-pronged program:

(1) policy management and program coordination,

(2) industrial efficiency and environment reviews,

(3) air quality planning and management, and

(4) water resources planning and management. The program focuses on the heavily polluted regions of Upper and Lower Silesia.

The European Community has contributed $26.7 million for projects in air and water protection, waste management, nature protection, and environmental education. In 1991 the European Community approved $36.5 million for a second-stage program that includes the preparation of a master plan for Upper Silesia for water management and protection, air protection, waste management, and the elimination of agricultural production from polluted land. Poland has entered into numerous other bilateral arrangements. 35

In November 1990 Parliament adopted a National Environmental Policy, which formally commits Poland to pursuing sustainable development. The policy sets forth a ten-point program of immediate action over a three to four-year period. The priorities reflect the most immediate dangers to human health. The policy also defines medium-term priorities to bring Poland into full compliance with European Community environmental standards by the year 2000. Long-term priorities after 2000 introduce sustainable development principles into the entire economy.

By the end of 1991, however, legislative progress had been slow. Parliament had passed only one new law that significantly strengthens the national enforcement agency, the State Inspectorate for Environmental Protection. Since early 1990, under the auspices of the Institute of State and Law, Polish Academy of Sciences, a commission of legal experts has been working on revising the comprehensive environmental law of 1980. The most recent draft--the seventh--seeks to enhance the law's comprehensiveness by combining it with the law on nature protection. The process is complex, involving consultation with Czechoslovakia and Germany as well as assuring conformity with European Community standards.

Poland's transformation to democracy is also delaying passage of the comprehensive law. The president, prime minister, other ministers, and the ministers of parliament in addition to MEPNRF, all have the right to submit drafts and amendments. Moreover, participants seem to seriously disagree about the extent of public participation to be allowed by the new act 36

Despite limited legislative action, MEPNRF has moved ahead on near-term priorities. The agency has closed chemical factories in Jelenia Gora and Chorzow, a steel factory in Byton, and coke plants in Katowice and Walbrzych. The Council of Ministers in 1990 set maximum permissible standards in fuel combustion for SO$_2$, NO$_x$, and dust. Additionally, MEPNRF now charges fees and fines that are forty times higher than they were two years ago.

Coal washing projects are underway in four mines where coal is especially high in sulfur. These, and fourteen similar planned projects should reduce SO$_2$ emissions by 25 percent in the next few years. Engineers have discovered methane deposits in Upper and Lower Silesia. The ministry expects production of this cleaner fuel product to double in the next five to seven years. Through bilateral aid, projects are underway to switch from household heating to gas or district heating in Krakow, Walbrzych, and Torun.

MEPNRF is establishing seven water districts: four in the Vistula watershed; three in the Oder watershed. The ministry is administering the now fully operating pilot district project in the Upper Vistula Basin funded, as stated above, by the World Bank and the European Community. MEPNRF has launched a national survey of

municipal waste management needs with support from European Community funds. The United States is helping to finance a waste-management system in Warsaw, wastewater treatment in Lodz, and schemes to reuse solid wastes in a Katowice steel mill. Funding from Switzerland and Denmark is helping efforts to improve waste management and to train municipal personnel.

The abolishment of censorship in Poland has expanded public awareness of environmental problems. Recently, the Central Statistical Office published a yearbook on the environment, which paves the way for more independent research on environmental conditions. In September 1990 nongovernment environmental groups and citizen activists celebrated a major victory when the government decided to abandon its $1 billion investment in Poland's first nuclear power plant and stopped construction. Other ecologically significant events include the establishment of an independent Commission for Environmental Impact Assessment with strong participation from the forty-nine voivodships. Finally, Poland is developing three new national parks: Stolowé Mountains, Mazurian Lake Region, and the Bierbrza Valley. The World Wildlife Fund is participating in the project to protect the Bierbrza marshlands. Efforts are also underway to set up common park lands at the borders with Byelorussia, the Ukraine, Germany, and Czechoslovakia.

Poland spent 0.8 percent of national income on environmental protection in 1987, 1988, and 1989. In 1990, this dipped to 0.6 percent. In 1991, this percentage will probably more than double to 1.5 percent. Foreign aid has been an important catalyst to environmental protection, although, to date, it represents only 5 percent of Poland's expenditure on environmental protection. In 1991 Poland negotiated a debt-for-nature agreement with Western European countries. Under this agreement, parts of Poland's debts are forgiven provided the savings are invested in environmental protection. 37

Changes in the Nature Protection Act address, among other issues, landscape

protection and biological invasions. At present, introduction of any alien organism in any developmental form to the environment, without a required ministerial permit, will be subject to a fine or detention, as specified in the criminal code.

Long debated among its drafters and stakeholders Poland's Act on access to Public Information, of Sept. 6, (published in Dziennik Ustaw nr 112 poz. 1198) became a part of Polish law this year. Coupled with the existing act on Access to Information on the Environment and Its Protection and on Environmental Impact Assessments, passed in 2000, the new act - which assures access to all kinds of information, not just environmental information - fulfils the requirements for implementation of the "Aarhus" Convention in Poland.

The Freedom of Information Law gives access to public information and deals with information that is related to public matters but is not public. Public information is defined by the act as pertaining to internal and external politics, public authorities and other bodies performing public activities, public documents, statements, administrative acts, legal acts and their drafts and public property.

Environmental groups warn that EU enlargement could weaken policy on GMOs:

Brussels - 27 May 2003 - A report released today warns that the lack of implementation of GMO laws in accession countries could result in GMOs unapproved in the EU, flooding the EU market after accession. The report entitled: "EU Enlargement - the introduction of GMOs by the back door of EU accession?" Outlines the difficulties accession countries face in trying to harmonize their laws on GMOs used in food and agriculture, with the EU patchwork of legislation that inconstantly under review, revision and expansion. All the accession countries of Central Eastern Europe (CEE) have now transposed all but the most recent EU GMO legislation. However, most of these countries lack any means to implement their laws on GMO authorization and labeling. Only the Czech Republic and Hungary have state laboratories certified to detect GMOs in seed, food and feed. "What GMOs are circulating on the markets of these countries is a big unknown, as there are no monitoring programmes to check compliance," said Iza Kruszewska, of
ANPED,
The Northern Alliance for Sustainability, an NGO network that released the report.
"Poland, the largest of the new Member States requires authorisation and labeling of GMOs, but has no means to enforce these requirements," said Ela Priwieziencew, from the Polish NGO, Socio-Ecological Institute. "In early 2002, Poland authorized the import of Monsanto's genetically engineered soybeans and (Bt) maize for use as animal feed, but to this day there is no certified laboratory to check what is really being imported and if it is labeled," she explained. "Already in 2001, we found a Soya product in Poland sold by the Polish company Sante, containing 4% genetically engineered soybeans - without any authorisation or labeling. Although we alerted the authorities, nothing was done to take these products off the market," she added.

Despite their poor implementation, many provisions in the laws of CEE accession countries address gaps in EU law or go further than EU legislation. For instance, the GMO laws in Poland and Slovakia provide for liability. Vera Mora, from the Hungarian NGO ETK gives another example: "Hungarian legislation on GMOs allows for the creation of genetic protective zones. We must be allowed to retain this provision to protect organic and non-GM farmers in Hungary from GMO contamination." The Slovene GMO law provides a safeguard clause that allows Slovenia not to automatically authorize all the GMOs approved in the EU.

According to Marjana Dermelj, from the Slovene NGO Umanotera: "Where there are concerns about potential biodiversity or other impacts, the Environment Ministry can re-assess the risk of releasing the GMO - even one approved in the old EU15 - into Slovenia's ecosystems." However, Dermelj doubts this provision will be applied: "Seven years of legal vacuum has created a situation where we just don't know the extent of GMO contamination - both with EU-approved and unapproved GMOs." The report examines the legal status of GMOs that have been put on the market in the old EU or on the market of a pre accession country, at the moment of accession, when the two markets merge to create a single market. Accession will create a new situation regarding existing approvals for GMO releases. Prior approvals - even if they concern the same GMO variety - should not be automatically considered valid, either in the "old" EU or in the new member states.
“EU authorisations cannot be extended to the territories of new Member States by default, irrespective of whether the GMOs were approved in pre-accession countries or not. Arguably, a new approval procedure must be initiated for all GMOs”, explains Thomas Schweiger, the author of the report. “The biotech companies with the support of the US government have moved into Central and Eastern Europe in a big way, seeking to avoid the more rigorous legislative framework of the EU; most successfully in Poland - the most US-friendly new EU Member State,” said Geert Ritsema of FoE Europe, co-publisher of the report. “But, we will not allow GMOs to be introduced by the back door of EU enlargement,” concluded Ritsema.

HUNGARY: ENVIRONMENTAL RECONSTRUCTION

Development and implementation of cost-effective or, better still, economically efficient environmental protection policies is critical for transition countries such as Hungary. Transition countries have, roughly speaking, only one-fifth the economic resources of Western countries and the history of serious environmental abuse extends well into the later quarter of this century. They simply cannot afford to waste resources or make serious policy mistakes, even or especially in the name of environmental protection.38

Hungary is undergoing both radical economic transformation and political change. Presently a number of challenges converge and compete simultaneously for attention and resources. Hungarian environmental policy and administration are part and parcel of these changes and the competing demands they make on the limited capacities of the institutions of governance. Improving institutional capacity is likely to be difficult since the issues involved are deeper than merely technical and administrative improvements. While democratization, in many ways, makes improving the institutional capacity for managing environmental quality in Hungary more difficult, it may also be a prerequisite for it. In Hungary institutional needs of the nation are also a piece of the explanation of the problems of implementing environmental policy. A significant expansion of institutional capacity is required as

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part of any concerted effort to address environmental issues.\textsuperscript{39}

Like other countries in ECE, Hungary is presently undergoing both radical economic transformation and political change. On the one hand, the development of an effectively functioning market economy is seen as the prerequisite for providing the material basis for long-term social welfare and well-being. In short term, the process of privatization has disrupted existing economic relationships and led to high levels of unemployment and lower levels of production. On the other hand, the democratization of the political system has infused new meaning into traditional institutions and created a set of new political actors who must learn to work under the new rules of the political game. A new civic culture must be created along with the associational infrastructure that will be necessary to carry the redefined relationship between government and society. New forms of co-operation and collaboration must be developed which rest on the functional divisions of labour and a respect for the autonomy of different institutions and actors.

Hungarian environmental policy and administration are part and parcel of these changes and the competing demands they make on the limited capacities of both political and administrative institutions. Improving this institutional capacity is likely to be difficult since the issues involved are deeper than merely technical and administrative improvements. While the change since 1989 have opened up a window of opportunity for far reaching changes, they have also made more difficult the design and putting into operation of new institutional forms and relationship. For the enhancement of institutional capacity in this field is related to efforts to democratize and facilitate the growth of civil society. To begin with, there remain tensions between environmental objectives and social welfare needs.\textsuperscript{40}

Leaving aside governmental policies enacted as early as the nineteenth century and designed primarily to provide some protection against industrial hazards, Hungarian policy on the environmental began in the 1960s and 1970s, with a series of laws enacted by the state socialist regime to covert a range of issues. Besides the law on the protection of air purity (1973), however, these were largely aimed at preserving resources important to processes of production.

For environmental policy in general, the most important piece of legislation adopted

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under the state-socialist system prevailing was the Act on Environmental Protection, enacted in 1976, and still in force in 1989, when the old regime fell. This law, which was the first explicit establishment of principles of environmental policy, established the (formal) right of citizens to live in a healthy environment and proclaimed protection of the human environment a responsibility of the broad society. Although the regulations stemming from the 1976 Act were quite stringent, at least on paper, they have proven unsatisfactory: in dealing with the practicalities of environmental pollution.41

Until late 1995, no broad, comprehensive environmental policy existed in Hungary. The 1976 law

41 Ibid, p. 94.
SPACE TECHNOLOGY AND ITS APPLICATION IN STATE OF ENVIRONMENT REPORTING AND MONITORING.

Network of partnerships for National State of the Environment Reporting Fig.4

INSTITUTIONAL CAPACITY BUILDING

Capacity building in the acquisition, Management, and reporting of environmental information is critical to many countries if they are to make sound decisions on sustainable development actions. It may be necessary to foster a climate and culture of using environmental information for decision-making. The strengthening of institutions, through human resource development, training, and technology transfer, can be important prerequisites to facilitate improved understanding of complex environment and socio-economic issues, the maximum use of available data, and enhanced environmental assessment and reporting at national and international levels.

Close partnerships will be necessary between national governments, regional institutions, the donor community, and UN Earthwatch agencies to achieve cohesive, complementary, and effective capacity building in environmental information development for SOER. Partnerships with local and regional governments, universities and research centers, nongovernment organizations, and the private sector can also be used to complement a capacity building program.

With respect to environmental information, capacity building will result in improved access, management, and use of available data; the development of national and regional networks for data sharing and integration and improved quality and delivery of information for reporting.

A tested approach for collaborative building includes the following steps:

- Evaluate the environmental assessment and reporting needs of the country and its institutions;
- Develop integrated proposals to address the organizational structure, technology, and human resource needs;
- Secure financing for implementing the capacity building program;
- Monitoring and evaluating the implementation results, and adjusting as required.

This is essentially the regional approach being taken by UNEP'S Environment and Natural Resource Information Networks Programme (ENRIN). In Central and Eastern Europe, for example, GRID-Arendal is co-coordinating environmental information capacity building through environment ministries of countries with...
economies in transition. The discussion below summarizes the overall approach for central and Eastern Europe.\textsuperscript{42}

In Central and Eastern Europe, the capacity building program follows four stages; initial assessment; feasibility and pilot; implementation; and operational (United Nations Environment Programme, 1994a). The initial assessment, conducted over a period ranging from one to 12 months, provides an overview of the current status of environmental information in the country, including existing system capacities, user need, and problems associated with integration and harmonization (for example, see Denisov, 1995). This status report provides a focus for national project initiation workshops with participants representing national environmental and sector institutions, international agencies, and interested donors.\textsuperscript{43}

The advice and direction of the workshop delegates is used to initiates the second feasibility stage, this stage provides a thorough assessment of Environmental Information systems (EIS), and recommends actions to strengthen capacities and access to environmental information, including the development of an institutional network. Two reports are produced from this phase:

a) A feasibility study on the EIS status, outlining the needs, capacities and proposed actions;

b) An implementation proposal for a three to five year implementation stage leading to an environmental information network in the country compatible to UNEP-GRID.\textsuperscript{44}

In the proposal for Hungary, a three-year implantation phase is directed at achieving a national environmental information network compatible with international systems. At the end of three years in 1998, Hungary is expected to have trained personnel, state-of-the-art equipment, and a sound legal, institutional and economic base for the generation and dissemination of environmental information relevant to


\textsuperscript{43} Ibid, p. 168.

decision makers and the general public (United Nations Environment Programme).\textsuperscript{45}

- A fully operational core unit based on modern GIS and telecommunications technology;
- Easily interpretable, visual environmental information products such as a national SOE report;
- An aggregated national spatial environmental databases accessible to users in Hungary and internationally;
- A meta-database of national environmental databases and institutions;
- Reports and data products of inter-sectoral, cooperative projects;
- Methodology and standards publications on data and information systems;
- International access to Hungarian environmental data and information to contribute, for example, to a 2002 global SOE assessment.

The GRID-Warsaw facility, established in Poland in 1991, represents an operational example of the results of the ENRIN initiative in Eastern Europe (United Nations Environment Programme, 1994c). The inputs of this centre mirror those outlined above, and include the production of the recent SOE report for Poland (Andrzejewski and Baranowski, 1993). This report, produced through a collaborative effort, is based on the compilation and integration of a large amount of data and their cartographic portrayal using GIS technology.\textsuperscript{46}

\textbf{FRAMEWORK FOR ENVIRONMENTAL INDICATORS}

An analytical framework is useful in providing an organized and structured approach to indicator selection and development. A framework can help identify all environment-development interactions associated with ecosystems, which influence the state of the environment. It can highlight system linkages and cause-effect relationships useful for policy decision makers and the public. Furthermore, a framework can help identify data gaps, and show contentious areas where appropriate indicators are not obvious and consultation would be most profitable.\textsuperscript{47}

There are several frameworks available, which can be used to guided indicator

\textsuperscript{45} Ibid, p. 243.
\textsuperscript{46} \textsuperscript{\textsuperscript{\textsuperscript{4}}}GRID-Warsaw 1991-1994, 1994c, p.198.
selection and development. A suitable framework for developing indicators at national or regional levels for SOER could involve three principle elements. First-at the general level, the framework would be guided by the three societal goals of environmental sustainable development.48

- **Assuring ecosystem integrity:** Ecosystem integrity is concerned with the decline in biodiversity through reduction of the ecosphere's gene and species pool, or through the loss of critical habitats or ecosystems. In addition, this goal encompasses the benefits derived from ecosystems such as pollution filtration, nutrient recycling, and scientific and aesthetic values.

- **Assuring human health and well-being:** The human health and well-being goal addresses environmental degradation and human health effects from pollution. It is primarily related to toxic compounds in the environment and the possible pathways into the human system. The primary pathways include air, radiation, water, and food. In addition, human well-being includes aesthetic and cultural attributes related, for example, to noise, odor, visual quality, and recreational opportunities.

- **Assuring natural resource sustainability:** The goal of natural resource sustainability focuses on the economic benefit from the management and extraction of environmental resources. The primary concern is over resource depletion. This is inevitable with non-renewable resources, but the rate of depletion can be mitigated through new discoveries, more efficient use, or recycling. For renewable resources, depletion results if the sustained yield is expected or potential harvest area is reduced, through for example, land use change.

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Table 4:

<table>
<thead>
<tr>
<th>Ecological Processes</th>
<th>Local</th>
<th>Regional</th>
<th>Continental</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil Information</td>
<td>Soil</td>
<td>Regional</td>
<td>Tropospheric Climate</td>
<td>Energy and radiation flows</td>
</tr>
<tr>
<td>Landscape restructuring</td>
<td>Regional</td>
<td>Climate</td>
<td>Biophysical evolution</td>
<td>High level air Circulation</td>
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<tr>
<td>Land Use Practices</td>
<td>Land Use Practices</td>
<td>Watershed hydrology</td>
<td>Wildlife migration</td>
<td>Ecosphere Hydrological cycles</td>
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<td>Ecological Processes</td>
<td>Ecological Processes</td>
<td>Vegetation Communities</td>
<td>Biophysical evolution</td>
<td>High level air Circulation</td>
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<td>Landscape restructuring</td>
<td>Local</td>
<td>Acid deposition</td>
<td>Long range toxic transport</td>
<td>Climate change</td>
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<tr>
<td>Land Use Practices</td>
<td>Regional</td>
<td>Pesticide runoff</td>
<td>Biodiversity</td>
<td>Ozone depletion</td>
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<tr>
<td>Ecological Processes</td>
<td>Continental</td>
<td>Wetland loss</td>
<td>Desertification</td>
<td>Deforestation</td>
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<tr>
<td>Environmental Issues</td>
<td>Environmental Issues</td>
<td>Hydrological cycles</td>
<td>Desertification</td>
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<td>Environmental Indicators</td>
<td>Environmental Indicators</td>
<td>Hydrological cycles</td>
<td>Desertification</td>
<td>Deforestation</td>
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<tr>
<td>Soil Loss</td>
<td>Soil Loss</td>
<td>NOx /Sox emissions</td>
<td>Bio-accumulation levels</td>
<td>CO2 levels</td>
</tr>
<tr>
<td>Amount of green space</td>
<td>Amount of green space</td>
<td>Fish closures</td>
<td>Protected habitat</td>
<td>CFC consumption</td>
</tr>
<tr>
<td>Beach closures</td>
<td>Beach closures</td>
<td>Protected wetlands</td>
<td>Wildlife stocks</td>
<td>Land use change</td>
</tr>
<tr>
<td>Amount of waters</td>
<td>Amount of waters</td>
<td>Protected wetlands</td>
<td>Wildlife stocks</td>
<td>Land use change</td>
</tr>
</tbody>
</table>

The definition of societal goals enables the delineation of issues, which influence the achievement of these goals. Therefore, it is appropriate to involve a wide spectrum of stakeholders to reach consensus on the list of issues for indicator development. In such a process, only issues of longstanding significance should be chosen. Nevertheless, the issues selected at anyone time should not be regarded as totally fixed or final. Perceptions change and some flexibility is needed to incorporate new environmental issues of relevance to contemporary sustainable development decision-making.49 There is obviously overlap among the issues at different scales with higher-level issues pervading all lower levels. National and regional indicators can be developed recognizing this geographical context.

The most widely known discussion of global issues currently available is contained in Agenda21 (United Nations Conference on Environment and Development, 1992). Examples of regional listings of issues pertaining to indicator development are available for Latin America, Asia, and the member countries of OECD (United Nations Environment Programme, 1994b; Winograd, 1995; and Organization for Economic Co-operation and Development, 1993d).50

The pressure-state-response model is based on the concept of causality, although it is not possible to isolate direct cause-effect relationships. The presence and activities of human beings put pressure on the environment. Such pressures are often classified into underlying forces such as consumption population growth or resource harvesting. The pressures on the environment are often regarded from a policy perspective as the starting point for tacking environmental issues, and, from an indicator viewpoint, tend to be the most readily available being derived from socioeconomic databases.

At a more specific level, the selection of indicators would be guided buy priority issues of the region or country in question. Finally, the search for a set of indicators would be structured following the matrix provided by the pressure-state-response conceptual model (Hammond et. AI, 1995).

THE PRESSURE –STATE – RESPONSE MODEL

Source: Australia Department of the Environment, Sport and Territories, 1994.
Ten Policy Lessons for Long-Term Financing of Sustainable Development

The experience of transition and newly industrial economies suggests ten lessons for securing effective, long-term financing of environmentally sustainable development:51

1. Rely more on the country's own economic growth and resource mobilization to finance the alleviation of domestic environmental problems than on foreign assistance.

2. Set realistic and attainable environmental goals that corresponds to the country's socio-economic conditions and national priorities.


4. Encourage private capital inflow, in general, and direct foreign investment, in particular, to relax the financial constraint on all investments (including environmental investments) and to access the best available environmental technology.

5. Clarify the potential investor's liability for past contamination to reduce foreign investment and privatization of state enterprises.

6. Shift more of the financial responsibility for environmental protection to the private sector through privatization and the introduction of environmental bonds, deposit-refund systems, impact fees, betterment charges, and clear liability laws. Also shift more of the responsibility to local communities and municipalities through decentralization of decision-making and resource mobilization especially the authority to set priorities and to issue debt to finance local improvements within broadly defined national guidelines.

7. Seek to shape expectations about the future environment pricing policy and regulatory framework to influence the design of new facilities at relatively low cost rather than to retrofit existing facilities at high cost.

8. Promote a more open discussion and informed debate of environmental issues, of the environment and growth tradeoffs, and of policy alternatives (including the costs of inaction) to attract public participation in priority setting and to enlist public support for the chosen priorities.

9. Set priorities for environmental objectives, policies, and investments through vigorous cost-benefit analysis and broad-based public articulation to make the most of limited available resources and to generate new ones.

10. Leverage limited public funds to mobilize additional financial resources from the private sector and external sources to alleviate short-term financial constraints, while all the necessary reforms for the development of local capital markets are put into place and take effect.

This chapter has taken two major themes, namely the transformation of eastern and central Europe and the problems of reconstruction. It proceeds from the assumption that political change, economic globalization and other realities are intertwined acting and the canvas for all these developments was the degraded environment. Therefore in the process of reconstruction what emerged as uppermost is the logic of sustainability, which has to be modified here unlike in the west because of large-scale pollution. Taking examples from Poland, Hungary and other states in the industrial and other sectors the chapter posits that in addition to physical reconstruction, institutional reorientation must be a precedent for which a new policy direction is imminent. These policy directions must depend on certain key factors like privatization, social audit, and sustainability role of institutional stakeholders, planning process that have been outlined. Finally all these are reflected in the new economic legislations.