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Alexi Danchev*

Adjustment in Eastern Europe to EU Environmental Requirements

The economic reforms taking place in Eastern Europe have in many respects an unfavourable influence on environmental protection. The adjustment of Eastern Europe to the environmental requirements of the European Union necessitates far-reaching changes in the very philosophy of transition, towards more balanced and reasonable approaches and adequate environmental taxation.

The association of Eastern European countries to the European Union (EU) and their gradual transformation towards becoming an integral part of it definitely requires the adjustment of their economies to the environmental standards of developed Europe. At present this appears to be a process of the accumulation of requirements, as even in the EU the creation of a sustainable Single Market is a question of the future. Eastern European countries are joining this process after more than two decades in the developed countries of seeking different instruments for environmental protection regulation. During this period the environmental gap between the two parts of Europe has increased.

This specificity subordinated the analysis of the adjustment process to the context of the growing environmental guidelines in the world economy. The process is taking place under the influence of the growing importance of environmental requirements on the competitiveness of firms and countries, as well as on the increasingly organized activity for pollution abatement on an international scale due to growing threats such as the "greenhouse effect", ozone depletion, etc. This results in a serious reconsideration of economic and environmental policy in Eastern European countries and of their conformity with the realities not only of the Single Market, but also of world economy criteria.

The present stage of adjustment is proceeding under the conditions of a deep economic crisis which will perhaps be continuous. The environmental situation was in fact alleviated by the sharp drop in industrial output, that naturally reduced the anthropogenic pressure on nature. On the other hand, it weakens the economic power to mobilize the necessary funds to solve environmental problems.

Why indeed is Eastern Europe so badly adjusted to the growing world environmental requirements, including those of the Single Market? The core of environmental problems in Eastern Europe consists in the low efficiency of economic activity, created during the centrally-planned period and still existing in the transition era.

So despite the relatively lower level of general pollution in this region in comparison with the western part of Europe, the amount of pollutants relative to gross domestic product remains much higher. This situation can be illustrated by the data on CO₂ emissions, published in the World Bank report "Development and the Environment" (Table 1). Among the most important things exacerbating the situation we could mention:

- The continued existence of an underdeveloped economic structure which functions in specific post-totalitarian conditions. Despite the obvious decline of pollution-intensive sectors, the economy as a whole keeps its low productivity, which does not permit the mobilization of enough funds for modern structural changes. Underdevelopment, that led in the past to quite inefficient "high growth rates" with low-quality resources included in production and consumption, resulting in strong pollution pressure in industrialized regions, now turns into a great source of unemployment.
- The long-lasting isolation from world development also continues to exist. As a result, a lot of modern technologies are being used mainly in developed Europe. The share of R&D for pollution abatement activity in centrally-planned economies was very low in comparison with the EC countries, and even this modest share was not effectively used. Now the reduction of R&D deprives the economy and environmental protection of much-needed innovations.
- The inadequate legislative basis for environmental regulation. The juridical basis of environmental regulation

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is also strongly underdeveloped. As a legacy of the past, we still observe an extremely strong violation of environmental standards, especially in highly industrialized regions. The environmental standards in Eastern Europe, some of which were even more severe than in Western Europe, had no economic basis, so that the greatest part of them was practically inapplicable. Virtually only during recent years has a process of legislative adjustment taken place, mainly with regard to the global international agreements on SO₂, CO₂ and other emissions. Only now is research work on introducing some market mechanisms for environmental protection and incentive creation for abatement activity beginning. Environmental Impact Assessment is imposed for big projects.

□ Because of the low environmental culture and the pressure on every social attempt to protest against pollution under the totalitarian regimes, environmental problems are still underestimated. Only in the most polluted areas is there an increasing social protest, which aggravates the onerous economic situation. Low and decreasing living standards do not create a demand for high environmental quality. The introduction of some forms of "wild capitalism" turns environmental protection into an undesirable barrier to high illegal profits. The increasing corruption and "mafia"-tization of society act in the same way. That is why a low willingness to pay for high environmental quality is still observed.

Under these conditions it is quite evident that economic and environmental degradation will be a serious barrier to joining "green Europe". It seriously impedes the attempts to adjust to environmental requirements of the Single Market.

To cope with this loophole Eastern Europe first of all has to overcome the current economic crisis. Only a positive growth rate (perhaps 2-4%) would permit the mobilization of the necessary funds for adequate environmental activity. Nevertheless, now is the best moment to start many new steps in the regulation of the economy and in environmental protection which could have a long-lasting, sustainable effect in future.

The economic reforms in Eastern Europe are really very controversial and in many respects they have an unfavourable influence on environmental protection. Emphasizing the monetary rather than the productive sphere, Eastern European governments did not create sufficient conditions for private sector growth. Its share is still too low and maybe it will remain so in the long run. The proxy of it is the low rate of privatization. Obviously, it is difficult for an economy which has been managed for decades on totalitarian principles to adopt effective market mechanisms in the short run.

On the other hand, even the emerging private sector itself creates serious problems. The acute need for funds for economic expansion and breakthrough confronts the vague but increasing environmental requirements that additionally aggravate the start-up. In the absence of an economic approach to them, the regulatory measures may be turned into a serious barrier to the inducement of new investments. It is also very important for the foreign investors, who would like to know more explicitly the regulatory intentions of the governments in the spheres concerned, including the sphere of environmental protection.

New Philosophy

A very serious change is indispensable in the very philosophy of the transition toward more balanced and reasonable approaches. Their disdain of the command-and-control methods which were applied during the centrally-planned period has blurred the common sense of many politicians and policy-makers. Instruments widely used in the former economic system, such as planning, coordination, etc. have now become more than unpopular. As a result the role of the state has been reduced far below a reasonable level. Economies which had functioned for decades under the pressure of severe state regulation were left to survive in an unpredictable setting. It is clear that under the conditions of acute financial deficits, foreign debts and deep economic decline, the beloved monetarist mechanism could positively affect only the financial sphere, suppressing the production sphere and the activities in which the market fails. This is reflected in many things: the decentralization of environmental funds beyond the rational level, which deprives the state of

Table 1

Global Carbon Dioxide Emissions from Fossil Fuels and Cement Manufacture

Country group	Total emissions (mill. tons of carbon) 1989	CO ₂ emissions (tons of carbon)		Share of emissions from different sources 1989 (%)		
		per capita 1989	per million of GDP 1989	Solids	Liquids	Gases
World	5822	1.12	327	42	38	16
High-income	2702	3.26	186	36	45	17
Germany ¹	175	2.82	147	44	39	15
Japan ¹	284	2.31	99	29	58	9
UK ¹	155	2.72	185	44	35	18
USA ¹	1329	5.34	259	38	43	19
Low and middle-income	2013	0.50	614	53	33	8
Europe ²	391	2.00	809	61	25	11

¹ Among the top six emitters of carbon dioxide.

² Low and middle-income Europe includes Eastern Europe plus Greece, Portugal and Turkey.

Source: World Development Report 1992, Development and Environment, Oxford University Press, 1992, p. 204.

necessary funds for effective regulation, the strong reduction of governmental support for environmental activities in emerging private business, etc.

Taking into account past tendencies and the present situation, it seems that more effective environmental regulation could be achieved by higher state participation, rather than by the enforcement of private behaviour. First of all, the private sector is very weak and not mature enough to put the environmental problems into its portfolio. Secondly, Eastern Europe obviously will maintain its tradition of high government participation (an inevitable legacy of the past) in environmental regulation, which cannot be perceived as a barrier to effective regulation. In Japan, state financing reaches 93.6% of total expenditure on environmental protection. Even the US economy with its traditionally very low share of state interference has a 40.8% government share of total expenditure in environmental protection funding.¹ One very simple but important conclusion follows: the level of state funding is not a condition that can determine the efficiency of environmental protection.

Nevertheless, in the transition to the market economy Eastern Europe should create all the necessary conditions for including the private sector in environmental protection. In this field experience is very modest because under centrally-planned conditions environmental protection funding in the enterprises was nothing but the redistribution of state budget funds, where they did not have an influence on ownership and thus there was no interest in their effective utilization. The adoption of the Western experience in introducing market mechanisms

and including the private sector in this activity appears to be promising.

Past and present environmental activity in developed countries reveals that there are different options for solving even the same environmental problems, depending on concrete conditions. This conclusion is quite valid for Eastern Europe too. It is impossible to impose any option that could pretend to be taken for granted. Not only every country, but even every local authority has to find its own best way of coping with the problems. This is very difficult for an economy where for decades all decisions were taken from above. The resulting decision-reluctance will impede economic recovery for a long time.

Adjustment Model

It appears reasonable to point out the following two, closely interrelated but nonetheless rather independent approaches, which could help adjustment-efficiency:

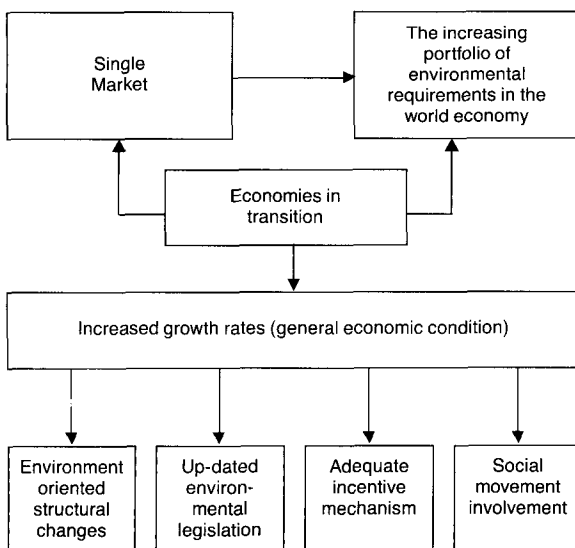
- restructuring the economy in a sustainable way and
- introducing modern environmental protection regulation.

These can be summarized in an aggregate adjustment model, presented below (see Figure 1).

The central point of this adjustment model is the increasing portfolio of environmental requirements in the world economy. Even the Single Market has serious problems with this adjustment. The task of Eastern Europe is a bit different: it has to adjust simultaneously to the whole complex of Single Market requirements, including environmental ones, and together with Western Europe it has to face growing world competition. Environmental adjustment can serve as an important instrument for the rational specialization of Eastern Europe, which could use its comparative advantages for breakthroughs on world markets. This should be done in conjunction with the specificity of each Eastern European country, for which the adjustment process should not mean a loss of specificity, but the turning of it into a comparative advantage.

From the model it is seen that the general economic condition for successful adjustment is an increase in growth rates. The present decline of industrial activity impedes every attempt to introduce effective environmental measures. It has especially unfavourable effects on the desirable structural changes and the avoidance of resource-intensive technologies, most of which are still applied in stagnating economies. This is very embarrassing, as the analysis of structural changes in Western economies indicates a serious drop in the share

**Figure 1
Model of Adjustment**



¹ OECD: Environmental Indicators, 1991, p. 55.

of pollution-intensive sectors during recent decades. It is very important to note that this was not due to the exporting of pollution-intensive technologies to the less developed world, as is sometimes claimed, but to very serious changes in those branches of the economy that consume the output of pollution-intensive sectors. Thus, the decline in the demand for such goods stimulated a decrease in pollution. It should be pointed out that even in traditional sectors, some of which have long been regarded as pollution-intensive, very deep technological changes have been taking place, which has also been favourably reflected in pollution reduction. This is especially seen in energy restructuring and SO₂ reduction.

Energy Sector

Energy production and consumption was traditionally one of the most pollution-intensive sectors in the economy (in some countries more than half of total pollution is connected with energy). As a rule the leading role of energy in environmental pollution in Eastern Europe is due to the fact that energy sources of a very low quality are used (coal with a high sulphur or powder content). Western Europe not only uses energy sources of a better quality, but the energy structure is more favourable from an environmental point of view. A serious drop in relative energy consumption (Belgium, Denmark, Sweden) was noted too.²

At present there are increasing possibilities in a number of European countries for using alternative energy sources effectively. Solar energy, for example, can be very effectively used in the southern part of Europe where both Eastern and Western countries are situated. The high solar radiation can effectively be used to decrease the environmental pressure caused by energy by at least 20%. Of course, it would take a large amount of funds that now even the developed countries can hardly afford, but the net benefit is expected to be high. Despite the fact that it is unlikely that solar energy will reach a high share of total energy consumption, the environmental effect from such a structural change can be very substantial. A start to using alternative energy sources may have a synergic effect and increase future demand for them, stimulating R&D in this field.³

During the process of restructuring it is very illusive to think that by returning to traditional sectors such as agriculture, textiles, etc. Eastern Europe would be able to

solve some of its environmental problems. Economic history does not know of such an experience in Europe. The answer lies in high technology development, especially since there is a scientific potential capable of realizing this task in Eastern Europe.

Regulatory Instruments

Another very important instrument of adjustment is the introduction of different regulatory instruments for environmental protection. As was already pointed out, a lot of requirements for emissions are even higher in Eastern Europe than in Western Europe. This is a result of the non-economic, administrative-biological approach to the elaboration of the regulations, where neither costs nor benefits of environmental protection were taken into account. It is obvious that the solution is not to decrease the norm, but to introduce norms that could play a sufficient enforcement and incentive role. An incentive system is especially important in spheres where command regulation has an inverse effect. It is mandatory for the growth of small business, where direct environmental regulation is difficult to control.

By now a quest for more sophisticated regulatory instruments than those applied during the old system can be observed. The Polish experience indicates that, "The higher rate of ecological charges than unitary treatment costs caused considerable liabilities for industrial enterprises ... especially for power industry", while "punishment either had not essential influence on to the economy of enterprises, or led to its bankruptcy".⁴ Hungary, as a leader in the transition, is even in the process of studying how to introduce tradable permits in environmental regulation.

At present the most important instrument of regulation appears to be the introduction of an adequate taxation policy. The lack of experience in modern taxation and the role taxes have to play in environmental regulation are among the very serious factors impeding the introduction of adequate taxation. The taxation could introduce sufficient economic incentives to internalize the externalities and thus to find the optimal solution to abatement needs.

The adoption of an environmental taxation system in the EU may be one very indicative example for Eastern

² We cannot help mentioning that in developed market economies relative energy consumption dropped (in tons of oil equivalent per GDP, at 1985 prices and exchange rates) for the period 1970-1988 in Japan by 30.9%, in Denmark by 35.5%, in the USA by 27.4%, in the UK by 33.1%, while for the OECD this indicator dropped by 24.6%. Only for countries like Greece (36.6%), Spain (16.5%) and Turkey (61.1%) did this indicator increase for the same period. Cf. OECD, op. cit.

³ The unit costs of production of photovoltaic and solar-thermal systems have fallen 95% in twenty years. The market for photovoltaic systems grew tenfold in the 1980s and, although still small, is growing at 20 per cent a year. Cf. Development and the Environment, World Development Report, 1992, p. 17.

⁴ Bazyli Poskrobko, Cygler Maciej: Effectiveness of environmental pollution control at the period of general economy transition in Poland, European Association of Environmental and Resource Economists, Third annual meeting, Cracow, June 16-19, 1992, pp. 4-5.

European countries for the creation of their own environmentally relevant taxation. This should be done in conformity with the principle that, "The tax should be fiscally neutral and Member States should take their own measures to compensate its imposition through fiscal incentives or reduction of other tax charges. Major energy users such as aluminium smelting, glass and paper making, exposed to international competition, would be charged reduced rates of tax, provided they committed themselves to precise figures on reducing emissions of CO₂ or cutting energy consumption. Any company would be able to deduct from the charges their expenditure and investment over three years in the EC and in third countries to reduce energy consumption."⁵

It will be impossible to introduce adequate economic mechanisms for pollution abatement effectively without the active involvement of social movements and society as a whole. Acquainting society with the costs of abatement and observing its response would make it possible to judge how much society is willing to pay. Gradually, this would help to overcome social inertia to environmental issues and by creating an understanding of their importance (even on a global scale) to increase the present low willingness to pay for environmental benefits. "Some lessons from World Bank experience are that information must be shared with local people early in the life of the project and that comments from affected communities must be incorporated into project design."⁶

Future Tasks

The future tasks should be outlined against the background of the current changes, which are taking place in a situation of great uncertainty. Nevertheless, the success of adjustment depends to a considerable degree on properly defined property rights, which despite the whims of future development could open the door to a sustainable transition to the market economy. Moreover, adjustment to the Single Market will be impossible without the active participation of the emerging private sector in Eastern Europe, which should be prepared to meet the rigorous environmental requirements.

More rational and flexible government interference will be needed. As environmental policy is integrated into economic policy, the environmental authorities could be involved in different ways, for example as environmental advocates with regard to other spending departments, as champions of environmental valuation, and as seekers of environmental policy bonuses.⁷ Really it is the Ministries of the Environment that should convince all social institutions of the necessity of adequate environmental measures. Their responsibility is increasing with the introduction of up-to-date economic instruments for

preliminary decision assessment, including cost-benefit estimations of environmental and related measures.

The stakes placed on privatization and its role in environmental protection are very high. As the deepest operation into the sick body of a post-totalitarian economy, privatization faces very serious problems even at present, before its real start-up. This is natural, as the change of property rights is of crucial importance for the future quest for the optimal allocation of resources. Nevertheless, such questions as who is responsible for the past damages and who is to pay for them now still prevail as the investor (foreign or national) has to know at least who is responsible for cleaning up the environment. The delay in legislative decisions means less investment not only in environmental, but also in industrial and other activities. The seriousness of this problem and the difficulty of solving it at present impairs the propensity of foreign investors to enter into Eastern Europe.

To solve the problem it is recommended that environmental audits be prepared for each firm before its privatization. A systematic approach is needed to clarify responsibility for repairing the damages of the past and preventing future damages. The buyer of the privatized firm has to know that he is buying the pollution source as well and that he will be obliged to pay for it. Environmental impact assessment would help to rationalize this activity, especially for large privatized enterprises.

One very serious problem is the privatization of contaminated land. It is logical that the new proprietor is not to blame for the past damages, but it seems unclear who is to pay for them. Should the price include abatement activity, and should the state compensate for the damages? The answer appears to be very controversial.

As it is clear that the principle of responsibility is decisive, the solution principally lies in internalizing this responsibility. This means that the cost of abatement should be reflected not so much in the price as in the additional instruments—taxes, depreciation, etc.—in order to meet in a softer way the high cost of repair. Anyway it needs a solid legislative basis and will require a lot of lawyers on environmental problems, who must be trained now.

The Bulgarian state, for example, took on the obligation of cleaning up the land. The methods are very expensive so the state will compensate the proprietor for the lost

⁵ The European Focus, July 1992, p. 18.

⁶ Development and Environment, op. cit., p. 14.

⁷ James Winpenny: Do market forces befriend the environment? The case of economic reform and environmental policy-making in Hungary, European Association of Environmental and Resource Economists, Third annual meeting, Cracow, June 16-19, 1992.

profits. The introduction of obligatory auditing of the land is expected. In cases where the pollution is due to inappropriate utilization (salination from abundant watering, pollution with pesticides, acidification due to fertilizers, etc.), the cooperatives are to divide the blame.

Comparative Advantages

The Eastern European countries should use their comparative advantages for the start-up in recovery and international trade. At present their main advantage is the cheap and qualified labour force. Such traditional sectors as tourism, textiles, the food industry etc. can be concentrated on in the beginning. But even in these fields they will face the increasing European and world requirements that may impede their trade (for example increased EU limits on agro-chemical residues in some vegetables and fruits) and thus restrict growth rates.

Gradually, Eastern Europe will have to introduce the environmental directives and rules of the European Union into its own legislative practice. Needless to say, the restructuring will require a lot of funds, which in the present crisis cannot be mobilized. Even the application of the so-called "best available technology" principle used in Western regulatory practice is a difficult task for Eastern Europe, because it needs a lot of funds. It is obvious that Eastern Europe cannot mobilize these sums for improving the efficiency of its economy and environment. This assistance can be delivered by the EU institutions, World Bank etc.

The European Union, for example, could increase its assistance to Eastern Europe in different ways. It does not necessarily have to be financial support. A very important role can be played by "brain aid", such as joint environmental projects, training of trainers, or sharing experience with Eastern partners on environmentally related issues. Ultimately, Western Europe will come round to all these activities. The first results of the Phare programme are very positive and promising. As to financial support, strong control by the international institutions is needed as some corruptive use of such funds has been observed.

The participation of Eastern European countries in the research programmes of Western Europe within the framework of the Single Market are especially positive for delivering environmentally favourable technologies. A special interest is inclusion in the programme STEP (Science and Technology for Environment Protection)

⁸ Speech delivered by Michel Camdessus to the UNCED in Rio de Janeiro, June 8, 1992; cf. IMF Survey, Vol. 21, No. 13, June 22, 1992, p. 202.

⁹ Peter Nunnenkamp: Financing the Global Environment, in: INTERECONOMICS, Vol. 28, No. 3, May/June 1993, p. 137.

including nine sectors of research concerning mainly atmospheric pollution, the quality of air and the effects on ecosystems. Integration into the Fifth Environmental Action Programme (1993-2000) and the future European Environment Agency will play a very positive role, too.

Positive Influence

In present East-West economic relations a number of tendencies can be observed that will have a positive influence on environmental protection in the less developed part of the world, including Eastern Europe. First of all, the end of the onerous confrontation that separated Eastern Europe for decades from economic, political, cultural and human contacts with the West opens up opportunities to close the environmental gap between the two parts of Europe. This will be favoured in many ways by the gradual association of Eastern European countries to the Single Market. This process will strongly accelerate the transition to a market economy and help to create those prerequisites for future sustainable development that are now being created in the Single Market.

The gradual association of the Eastern European countries with the European Union will stimulate the sustainable side of their mutual trade. "More open trade regimes can go along with a lower level of pollution, because they encourage investment in production technology that is more modern and less polluting. Moreover, trade liberalization is generally associated with increased efficiency and with higher growth and incomes, and can facilitate a shift to production technologies that use natural resources more sparingly."⁸ The assistance of many Western and international institutions in training managers for environmental protection in market conditions may also be pointed out as a positive example.

The transformation of the foreign debt via "debt-for-nature swaps" already experienced by some Eastern European countries, although its financial effect has been modest, can be used for the needs of the environmental adjustment process. It seems the observed failures are indicative not of the unreality of the very idea, but of the lack of suitable mechanisms to implement it into economic practice. A system of tradable permits looks much more promising.⁹

As a whole we are now facing a serious challenge for the future. The "green" issues play a very important role in this process. To restore normal economic life in Europe, we need mutual understanding. As a cradle of human civilization Europe should serve as a model of rational environmental policy. This can hardly be done without the adjustment of its two parts to each other in every sphere of activity, including the environment.