

**SUSTAINABLE DEVELOPMENT AND  
ECONOMIC TRANSITION IN RUSSIA:  
WHAT ISSUES? WHAT AGENDA?**

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## **1. INTRODUCTION**

The pressures of economic competition and the need to achieve economic growth have resulted in wholesale changes in the way that economic activity is organized in the countries of Eastern Europe and the former Soviet Union. Similar but less pronounced changes have also been observed in developing countries that have moved away from state control to a more market-oriented system. Although the two groups of countries have something in common, I will, for the sake of brevity, focus my attention in this paper on Eastern Europe and the former Soviet Union, countries that are said to have “economies in transition.”

These transition economies have, since the early 1990s, undergone a profound change in the way that the state interacts with the private sector in the regulation of the economy and the control of the quality of the environment. This conference is concerned with the environment in the twenty-first century; certainly the performance of the economies in transition will have an important contribution to make to how the global and regional environment turns out in the next century.

In this paper, I describe the main features of the state and regulation of the environment in the transition economies, including the recent trends that we have been observing. I then go on to look at the strategy for economic reforms and the role of environmental control in that strategy. There is a distinction between the policies that must dictate development in the long term, and those that must set priorities in the short term. Both sets of policies are elaborated in this paper, with recommendations for reforms in environmental and economic policy. This debate is conducted in the context of the goal of sustainable development. I take the view that the implications of sustainable development for policy in economies in transition is rather different from what sustainable development means for economies such as France and the other OECD countries. In particular, the urgent need for economic reform in the short run dictates that this must remain a priority, and that in the short term the usual indicators of sustainability will not be relevant to monitoring the progress of these countries towards the goal of sustainable development.

## **2. THE ECONOMIC AND ENVIRONMENTAL SITUATION IN ECONOMIES IN TRANSITION**

Almost all the transition economies can be characterized as having, under central planning, an economic structure that emphasized heavy industry and high levels of energy use. Compared to market economies with similar living standards, their use of energy was much higher. At the same time, control of emissions was at, or below, that of the OECD countries. Hence the measured levels of pollutants, where data are available, were higher than in the OECD countries. The full picture of what the quality of the environment was like under central planning is difficult to establish because of the lack of data on some pollutants in some areas. Even now, as past pollution is being exposed, information is limited and data are in short supply. Nevertheless, researchers are discovering alarming cover-ups of releases of waste and other environmental damage that were not revealed in the communist period.

As the centrally planned economies move to a market system they face many difficulties. Prominent among these are loss of markets, fall in output, and severe financial shortages. The governments in these countries have taken the view that at this stage priority must be given to those investments that will increase output and restore living standards. In terms of public funds, this has meant that very little has been made available for environmental protection or environmental improvement. In the private sector, the government has been reluctant to press for stricter environmental controls at a time when enterprises are only marginally viable. As the economic reforms take place, we are observing increases in industrial production and some economic growth, but with levels generally still below those that existed at the peak of the communist period.

In these circumstances we have observed a decline in pollution emissions but, as the Russian experience and that of some other countries shows, the decline in emissions is less in percentage terms than is the fall in output, *so pollution per unit of output has been increasing*.<sup>1</sup> At the same time, the quest for survival means that enterprises are less careful in meeting safety standards and are willing to “cut corners,” with the result that the rate of environmental accidents has been increasing. In Russia, for example, there was an increase in the number of industrial environmental emergencies from 238 in 1993 to 356 in 1994, an increase of 50 percent.<sup>2</sup>

While overall emissions have declined during the transition, indicators of health have worsened. Death rates have risen sharply, with male life expectancy in Russia having fallen from 64 to 57 in the last four years.<sup>3</sup> Reasons for this unprecedented fall are still being debated. In part it is due to the social disruptions that have been caused by the transition (unemployment resulting in increased alcoholism, smoking, etc.). But in part it is the result of accumulated environmental damage. Again using Russia as an example, serious birth defects rates are four times those of the United States and have been rising in recent years.

Other indicators of environmental quality are also conflicting. Land declared as conservation land has increased in some countries, primarily because of the sharp decline in agricultural output, which has meant abandoning land for this purpose, with the local authorities only too glad to see responsibility for it handed over to the central government. Resources for the protection of the conservation land have, however, been woefully short. Hence poaching, illegal logging, etc. have, on anecdotal evidence, increased sharply.

Reasons for the measured increase in pollution intensity are not fully understood. In part, it is because the reductions in output have been greatest in sectors that were relatively lightly polluting (such as light consumer goods and services). In part it may reflect the more accurate reporting of emissions under the more open system of government. Third, as noted above,

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<sup>1</sup> For evidence on air and water quality in Eastern Europe, see, G. Hughes, *Is the Environment Getting Cleaner in Central and Eastern Europe?*, World Bank, 1996.

<sup>2</sup> See *Russia, State of the Environment Report, 1994*. Ministry of Environmental Protection, Moscow. See also R. Perelet and P. Safonov, “Approaches to Integrated Environmental and Industrial Management for Sustainable Development in Russia,” *Industry and Environment*, Vol. 18, pp. 73-77.

<sup>3</sup> *New York Times*, August 1995.

regulators are turning a blind eye to transgressions of environmental standards and are less willing to ensure compliance when the implications of stricter compliance might be plant closure and increased unemployment. No one really knows how much each of these factors explains the increased pollution intensity.

In the later years of central planning, enterprises were dependent on public funds for environmental investments. In part these have been provided through the government budget and in part through a scheme of pollution charges which are channeled to environmental investments via a framework of dedicated environmental funds at the national, regional, and local levels. With the substantial inflation that these countries have experienced in the past few years, however, and with the budgetary squeezes, the amounts available in real terms for environmental investments have declined significantly in most transition economies. Comparisons are difficult because of the shift in currency values and a move from a controlled exchange rate to a market based one, but most commentators note that the resources effectively available for investment in environmental protection have fallen in many countries since the start of the period of reforms. There are, however, some signs of a recovery in the available funds in some regions over the past year.

In summary, one cannot answer simply the question of whether the environmental situation has improved in these economies since the process of transition started. In many respects things have gotten worse. In some they have gotten better. The expectation is that, as the economic reforms take effect, the environmental situation will improve *pari passu*. While this may be true in some general sense, it is not enough to rely on the simple correlation between these two developments. The pursuit of sustainable development places a greater burden on seeking the greatest improvements in living standards consistent with the goals of maintaining the quality of the environment and ensuring that future generations can also enjoy similar living standards.

### **3. SUSTAINABLE DEVELOPMENT AND ECONOMIC TRANSITION**

The goal of sustainable development has been interpreted as one of ensuring that future generations are no worse off than present generations in terms of the economic, social, and environmental assets that they possess and the consequent living standards they enjoy. The monitoring of sustainability – whether a particular country’s policies are consistent with sustainability – has provoked some debate.<sup>4</sup> At one end are the “environmentalists,” who argue that sustainability requires the preservation of key environmental assets. At the other end are the “economic environmentalists,” who argue that what matters is the *total monetary value* of the asset base handed on to future generations. This asset base includes natural capital (such as forests, lakes, etc.), man-made capital (such as machines, buildings, etc.), and human capital (education, knowledge, and learning). If one of the three (such as natural capital) declines, the fall can be made up with a sufficient increase in the other two. The first kind of measure of sustainability is referred to as “strong sustainability” and the second as “weak sustainability.” I do not want to debate the pros and cons of these measures of sustainability, but to discuss their relevance in the economies in transition. My argument is that *neither* is really appropriate in

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<sup>4</sup> M. Common, *Sustainability and Policy*, 1995, Cambridge University Press.

these situations, but that the concept of strong sustainability is the more useful here. We are observing, and are bound to observe, a decline in the rate of accumulation of total capital in this period of transition. Some estimates have been made for Romania, which show that the net rate of capital accumulation declined by 55 percent between 1990 and 1993.<sup>5</sup> In other countries the level of net accumulation might well have become negative during some phases of the transition. Of itself this may not matter. What matters for sustainability is that, *in the long run*, the total stock of capital be increasing and that in the process of transition we do not lose key assets that are both environmentally and socially important and irreplaceable. As far as the first condition is concerned, I have no doubt that the losses in total capital stock will be reversed once the transition is complete. Indeed I would argue that accumulation rates *should* fall during this stage of transition, so that the level of consumption can be maintained during the decline in output and the burdens of adjustment on the poor be kept to a minimum. Hence the lack of sustainability in the weak sense is of little importance at this stage.

As far as the strong condition of sustainability is concerned, it is indeed important to ensure that key environmental assets are preserved in these difficult times. The important issue is to know how to identify these key assets. Ensuring preservation will entail a cost. If the cost is low, the preservation can be undertaken without too much debate, but if the cost is high, one must have a good justification for undertaking the preservation. The measures of sustainability provide no guidance on how to decide on what is a key resource and what is not. If we adopt a valuation approach, comparing the costs and benefits, then we are accepting a monetary criterion, which will be subject to criticism from environmentalists. But they may be persuaded of its suitability if they see that in deciding on the question of preservation, we need to take account of *future values* as well as present ones, and that often the calculus comes out in favor of preservation.<sup>6</sup>

Even if the calculus demonstrates that preservation is justified and is required on sustainability grounds, governments in these countries, facing a cash crisis, are very unlikely to undertake the measures unless funding is available expressly for such projects. The present focus of the donor community in Eastern Europe has been on environmental assistance to maintain or improve the health of the citizens of these countries, and not on the protection of key components of natural capital. I believe that this focus is misplaced, both on practical short term grounds and on sustainability grounds. The factors influencing health are very complex, and the social disruption of the transition is probably more important than the levels of environmental pollution. Moreover, the health impacts of environmental investments will be marginal in many cases.

The losses of the key environmental resources, however, will be permanent and irreversible. Hence I would support a long term environmental fund, supported by the richer countries of the world, that would provide capital for the preservation of key natural resources in these countries for the next five years. The selection of projects for funding can be based on a combination of

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<sup>5</sup>C. Tarhoaca, *Depreciation of Mineral Resources and Sustainable Development, The Case of Romania*, working paper, Harvard Institute for International Development, Bucharest, 1996.

<sup>6</sup>For methods of preservation valuation see J. Krutilla and A.C. Fisher, *The Economics of Natural Environments*, Resources for the Future, Washington, DC, 1975.

environmental and “environmental-economic” grounds. The repayment of the money to the funds’ investors would be triggered when the transition economies had achieved a certain level of per capita income (say, 25 percent above the OECD average). Details of interest payable, etc. could be worked out, but such a fund would offer money for key protection of the natural environment, as well as providing the investor with an asset that will, in all probability, provide a return.<sup>7</sup>

#### **4. POLICIES FOR ENVIRONMENTAL PROTECTION IN THE SHORT- AND LONG-TERM**

The macroeconomic framework for policy reform in economies in transition involves the privatization of state enterprises, creation of market institutions such as banks, deregulation of trade, etc. These reforms are essential for the transition, and mostly they will ensure the recovery of industry, increase the financial resources available for investment, and increase real living standards. At the same time, they will result in environmental benefits and a few environmental problems. The benefits will be the shift to cleaner technologies and the availability of resources for environmental investments. The costs will be increased levels of waste, congestion, and forms of pollution that increase as per capita incomes increase: NO<sub>x</sub>, O<sub>3</sub>, and solid waste.

At the same time as the macroeconomic framework is being implemented, a framework of sectoral policies is also being introduced in these countries. Primarily these involve reductions in subsidies to enterprises, increased use of hard budget constraints, increased private sector involvement, and more competition, including international competition. These reforms should also, generally, be beneficial to the environment. As has been noted elsewhere, the price increases in the energy sector will reduce emissions substantially, even if no other measures are taken to control pollution.<sup>8</sup>

These changes in the environmental profile will occur after some time – perhaps 5-10 years. In the short run, however, their impacts will be much less and the environmental problems facing these countries will not be addressed. *Hence the focus of policy in the short run has to be quite different from that in the long run.*

The organizing framework for short run policies for the environment has been the National Environmental Action Plan (NEAP). The origins of this work were in the Lucerne agreement of environmental ministers in 1992, subsequently revised in Sofia in 1995.<sup>9</sup> Most NEAPS provide a good description of a nation’s environmental problems, but unfortunately they contain too many proposed actions – more than there are resources to address. Moreover, they do not have a priority framework for ranking the different actions. Such a priority framework, and a clear

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<sup>7</sup> Investors need not be governments, and could be private foundations. Central governments in the transition economies will, however, have to offer some kind of guarantee of repayment.

<sup>8</sup> R. Bates et al. *Economy Wide Policies and the Environment: A Case Study of Poland*, World Bank Environment Working Paper No. 63, Washington, DC, 1994.

<sup>9</sup> *Environmental Action Programme for Central and Eastern Europe*, World Bank and OECD, 1993.

financing plan to go alongside the environmental action plan, are among the most important policy actions required in Eastern Europe and the former Soviet Union.

In drawing up such a priority framework, the following key features of the present environmental situation should be noted:

- Industries are using inefficient technologies with high pollution.
- Industries are frequently unprofitable or barely profitable.
- The social costs of plant closure are very high.
- The real costs of borrowing for environmental (or any other) investment are very high.
- Public sector resources for environmental investments (through environmental funds) are very limited.
- Existing fiscal incentives for pollution abatement are weak.
- Compliance with environmental regulations is weak.

I would recommend that the major interventions to deal with these problems are:

- Focus pollution reduction measures on hot spots where action is most urgently needed – i.e., prioritize environmental protection measures.
- Assist enterprises to identify and adopt low-cost/no cost strategies – so called "win-win" strategies.
- Increase the efficiency of allocation of the scarce public sector resources that are available in the environmental funds.
- Look for new and innovative instruments for regulating pollution and for financing environmental improvements.
- Encourage the development of NGOs that can monitor changes in the environment and can insist that the principles of sustainable development are honored.

Each of these is discussed further below.

### ***Prioritizing Pollution Reduction Measures***

In making pollution reduction decisions we need to look at the benefits and costs of the reductions. The benefits are in terms of reduced health risks, reduced damage to key natural resources, etc., and mostly require the use of a risk assessment prior to the benefit estimation. The costs of the reductions are not only the direct costs but also the social costs, such as closure of plants, etc. These social costs should also be included. Methods for analyzing projects in this way are more advanced in the West than they are in the transition economies; hence this is an area where assistance can be usefully provided.

### ***Introducing Low Cost/No Cost Options***

Low cost and no cost measures are specific measures (better management of operations, recovery of materials, increased energy efficiency, end of pipe, etc.) that will pay off in terms of improved economic productivity. Much of the World Bank's focus in the economies in transition has been

on identifying such measures and providing support for implementing them. In general, this approach has met with limited success so far. To understand why this is so, we must realize that we are seeking projects that would normally be adopted by a commercial enterprise pursuing good commercial practices. If that is the case, we must ask why such options are not adopted without external support. There are a number of reasons, among which I would focus on:

- *Incentives for profit seeking are weak.* Many enterprises are still under public control and do not have the incentives to seek profits from better production strategies.
- *There are too many better options for making profits.* The reverse applies to some enterprises; namely that they have too many opportunities to make money in the new markets, and the kind of profits realized from environmental investments are relatively small, while placing an inordinate demand on limited management resources.
- *The rate of borrowing is too high and the period over which you can borrow is too short.* With high rates of inflation and high uncertainties, lenders are only willing to lend on very short terms, at rates that are very high in nominal terms. This makes borrowing for investments with payback periods of two years or more very difficult.

What then can be done to encourage such measures? A number of actions can be taken. I would focus on the following:

- *Provide external assistance for enterprises in identifying environmental investment projects and preparing the case for their financing (including identifying the benefits and quantifying them).* There is a real need to assist enterprises in this way. They are not accustomed to making the case for certain investments on both private and social grounds, as are private and public enterprises in the market economies. The support of the World Bank and the international donors in this regard is of great importance.
- *Provide external loans for part of the cost of environmental investments.* Such loans increase the amount of capital available for environmental protection, but they also act as a signal to the market, so that firms can leverage them with resources from other sources.
- *Assist in the development of financial institutions that are willing to make long term loans by various measures that reduce the risk.* At present there are virtually no private sector institutions that focus on environmental or "green" investments. Yet such opportunities exist, and there is scope for the private sector to mobilize funds through the equity and bond markets for this purpose. In market economies such as the US and the UK, ethical investment trusts have performed at least as well as normal trusts. The citizens of the economies in transition, like those in the West, have a desire to make such investments. Given the lead by ethical funds in the West, with support from highly respectable people in the countries themselves, it should be possible to channel funds into the protection of the environment in a way that provides good returns to the investors over the medium to long term.

### *Allocation of public funds*

The dedicated environmental funds that presently exist are inefficient (sometimes even corrupt). There is little assessment of their economic and environmental effectiveness. Measures can be introduced to make such funds more efficient. The first step is to utilize cost effectiveness assessments, so that different projects can be compared in terms of the costs of achieving certain environmental improvements. These procedures need to be standardized and applied to all funds.<sup>10</sup> The second step is to introduce benefit-cost analysis for evaluating projects and proposals from potential sources. This may take some time and is not, in my opinion, as important as achieving a higher level of cost effectiveness. The third step is to look at ways of recovering some of the payments through repayment schemes, thus creating a revolving fund which can be used to finance more projects. This is extremely important, not only because it will provide increased resources for investments, but because it will create a discipline under which enterprises will be obliged to recover the benefits of the investments more fully.

### *New and innovative measures for making environmental improvements in transition economies*

Several ideas have been proposed for moving to a path of greater sustainability and better environmental quality in the transition economies. Among these is a shift to more market-based instruments for environmental control. Although such instruments have a role to play in some areas, I do not believe that the greatest gains will be achieved by a simple shift to pollution charges, tradable permits, or other instruments that are the subject of considerable interest in the West. First and foremost, these countries need to focus their attention on ensuring compliance with environmental standards. In general there are too many standards, most of which are not being met. Compliance with the most important of these is a key component of environmental policy reform.

At the same time, however, the authorities have to seek ways of making the system work at a time when the structure has many imperfections. Given the lack of financial resources, the aim should be to make use of non-financial resources to protect the environment. This can be done in several ways, of which the following are examples:

- *Use tradable permits, creating an asset that increases the net worth of the more efficient enterprises.* Instead of imposing pollution charges (which are often not levied if levying them puts the enterprise in danger of closing down), one could move to a system of permits which would be issued to the enterprises in proportion to existing emissions and which would be tradable. This would make it possible for the same enterprises to convert what is in effect an asset into cash, which can be used for other investments. The use of tradable permits in transition economies has been very limited. Poland has experimented with this instrument in

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<sup>10</sup> For further discussion of the need for cost effectiveness see A. Melzer and T. Zylicz, *Enhancing Environmental Project Financing in Central and Eastern Europe*, mimeo., OECD, 1996.

the city of Chorzów, and some initial attempts are under way in Almaty, Kazakhstan.<sup>11</sup> Much work, however, needs to be done before this instrument realizes its potential in these countries.

- *Use land swaps as an incentive for moving or adopting new technology.* The following example illustrates the way this can work. A polluting enterprise is located in a heavily developed area and is being privatized. The land ownership is still with the government, which can share some of the cost of vacating the site and moving to a less damaging site with the enterprise, if the enterprise also adopts a cleaner technology. The deal benefits both parties, and can be struck relatively easily as long as the legal framework permits it.
- *Mortgage assets that are owned by local government for environmental improvements that will pay off.* Local governments have land, gold, etc. that is not being put to use in financing environmental improvements. Instead of seeking to borrow from the banks, they could liquidate some of these assets now and repurchase them later from the proceeds of the investments.
- *Where an environmental improvement will result in increased land value, collect the benefits through an increased land-value tax.* The levels of land taxation are based on out-of-date valuations. Updating these valuations can provide considerable resources to the government. Specifically, when the government proposes an investment that will result in land betterment, the beneficiaries can and should pay for this. They can be made to do so through a land tax. It is even possible for the government to collect revenues during the process of making the improvements, through a cost sharing-venture.

### ***Formation of and support for NGOs***

In the West, non-governmental organizations have led the effort to raise public consciousness about environmental issues and put them on the political agenda. Without NGOs' efforts, concerns about sustainability would not be as prominent as they are today. A similar institutional effort is required in the economies in transition, and it is encouraging to see such groups being formed and acting as a source of pressure on governments to protect the environment and public health.

One danger for such organizations is that they will become too closely connected to government policy makers and will thereby be incapable of acting as independent sources of criticism of government policy. In some transition economies a tendency in that direction is being observed. If the NGOs are to play an effective role, they must not become dependent on government funds and reliant on government support for their activities.

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<sup>11</sup> See D. Dudek et al. , *Implementing Tradable Pollution Rights in Poland* , Paper presented at the 3rd Annual Conference of the European Association of Environmental and Resource Economists, Cracow, Poland, 1992.; and T. Panayotou, *Effective Financing of Environmentally Sustainable Development in Eastern Europe and Central Asia*, Paper presented at the 3rd Annual World Bank Conference on Effective Financing of Environmentally Sustainable Development, Washington, DC, 1995.

Notwithstanding this point, it is promising to see the formation of active independent groups in countries such as the Russian Federation. They can and should benefit from support from their sister organizations in the West, although such support should not end up determining the agenda of the new NGOs. It is to their credit that bilateral sources of assistance, such as the United States Agency for International Development, have supported the activities of NGOs in many transition economies in a way that has allowed the NGOs to determine, to a large extent, their own areas of activity and support.

## 5. CONCLUSIONS

The economic and environmental situation in the transition economies has not improved unambiguously since the move away from central planning. The economic indicators are still in the process of turning upward, and although the levels of emissions of many pollutants has declined in recent years, the pollution intensity of the economy (emissions per unit of output) has increased in some countries and for some pollutants. Other indicators of environmental quality are also conflicting.

The expectation is that, as the market reforms take place, the quality of the environment will improve in most respects, although we can expect a deterioration with regard to levels of ozone, NO<sub>x</sub> emissions, and solid waste. The short term, which covers at least the remaining years of this century, however, offers less sanguine prospects for the quality of the environment in these countries.

What has the concept of sustainable development to say about the process of transition? It is argued that the measures of sustainability based on the total capital stock are not relevant for the transition phase. Preserving those components of the natural capital stock that are most important, and whose loss is irreversible, should be part of the sustainable development strategy during the transition phase. In order to select the assets that should receive protection in this way, it will be necessary to weigh the values of the preservation against the costs of the preservation. Funds for this purpose can be provided by the West, with repayment contingent on the transition economies achieving certain levels of per capita income.

Environmental policy reforms can assist in the transition to a path of sustainable development. The areas of action identified herein are:

- Focus pollution reduction measures in hot spots where action is most urgently needed.
- Assist enterprises to identify and adopt low-cost/no cost strategies.
- Increase the efficiency of allocation of the scarce public sector resources that are available in the environmental funds.
- Look for new and innovative instruments for regulating pollution and for financing environmental improvements.
- Encourage and support the activities of *bona fide* local NGOs.

There are multiple actions and measures that can be taken to support these areas of policy reform in the short to medium term. In the long term many of the problems that are being faced now will disappear. But if we leave everything to the market reforms, the environmental situation could become intolerable, and the process of reform itself might be derailed.

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