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**Task Force for the Implementation of the Environmental Action Programme in Central and Eastern Europe (EAP)**

**REPORT ON ENVIRONMENTAL FINANCING IN CEEC/NIS**

*The attached report has been prepared by the OECD/EAP Task Force Secretariat, in co-operation with the Project Preparation Committee. It responds to a request from the Working Group of Senior Officials (WGSO) preparing the Aarhus Ministerial Conference to prepare a report on financing for that conference. At its meeting in March 1998, the EAP Task Force suggested several amendments and, on this basis, endorsed the draft report (CCNM/ENV/EAP(98)24) and agreed that it be forwarded to the WGSO and, subsequently to the Aarhus Ministerial Conference.*

*This report supercedes CCNM/ENV/EAP(98)24REV1. The only changes are factual resulting from new data recently received by the Task Force secretariat. The changes are to be found in Annex I hereto.*

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## **Background and Introduction**

The attached paper presents draft Policy Conclusions and Recommendations on Environmental Financing in CEEC/NIS. It has been prepared by the OECD/EAP Task Force Secretariat, in co-operation with the Project Preparation Committee. The Working Group of Senior Officials (WGSO), which is preparing the "Environment for Europe" Ministerial Conference to be held in Aarhus 23-25th June, 1998, agreed that the paper should be forwarded to the Aarhus Conference.

This paper has a dual role: it aims to report on the progress which has been made since the last Ministerial Conference in Sofia in October 1995, and to summarise trends over the last half decade since the Lucerne Conference in April 1993. The paper is based on the findings of a more comprehensive analytical report, and discussions of those findings at a workshop in Paris, 9-10th February, 1998. A draft of this paper was also discussed at the March 18 meeting of the EAP Task Force. Comments and suggestions made at that meeting have been taken into account in the preparation of the present paper. The comprehensive analytical report will be made available at the Aarhus Conference as a background document.

The attached paper:

- reviews the debate on environmental financing within the "Environment for Europe" process;
- presents trends in environmental expenditures;
- examines the forces creating demand for environmental financing in CEEC/NIS;
- analyses environmental financing in the enterprise sector, municipalities and national budgets;
- assesses the potential of existing and emerging environmental financing mechanisms (the supply side), and;
- recommends some next steps.

## 1. Environmental Financing in CEEC/NIS

1. The debates about environmental financing have evolved considerably over the course of the “Environment for Europe” process. In the preparations for the 1993 Conference in Lucerne, considerable attention was focused on “new and additional” financing which was to be provided by external sources. During the discussion of the Environmental Action Programme for Central and Eastern Europe (EAP) at Lucerne it was acknowledged that the bulk of financing for environmental investments in CEEC/NIS would have to come from domestic sources. Discussion highlighted the importance of priority-setting, strengthening domestic environmental financial institutions to ensure the most cost-effective use of resources, and using external financing in a catalytic and strategic way.

2. At the 1995 Conference in Sofia, there was a recognition that “the obstacle to increased financing is not so much a lack of foreign capital as the high cost of commercial capital, the limited flexibility of financing mechanisms, and problems in linking priority needs with the available financing.” It was acknowledged that demand for environmental finance was still at low levels throughout the region. However, most discussions focused on the supply of finance, in particular the development of innovative financial mechanisms and the role of “soft” financing.

3. Since Sofia, the growing divergence in contexts and priorities between countries advanced in the transition to market economies and others, particularly the NIS, has become more evident. Some of the countries more advanced in transition have been very successful in mobilising resources for environmental investments, and they are now developing a new range of policies and instruments. In the NIS, progress has been considerably slower: sources of environmental finance are in very short supply, and in some countries virtually non-existent. These developments have served to emphasise that environmental financing must be analysed more systematically as the interaction between demand and supply. Such a perspective emphasises the linkages between policies and instruments (to create demand and raise revenues), institutions (to channel scarce resources most cost-effectively) and investments (involving project sponsors in different sectors). This perspective also provides insights into how external financing and technical assistance can be made most effective.

<p>The <u>Polluter-Pays Principle</u> (PPP) provides the framework for environmental financing in market economies: it recommends that polluters use their own resources to finance measures required to comply with environmental standards. The government role in combating pollution is to establish the policy and institutional framework, from which emerges the demand for financing. On the supply side, the PPP provides for exceptions in transition periods to the “no subsidy” philosophy of the PPP. These exceptions include instances where industries would suffer unduly without the subsidy, and may be justified if the size and duration of the subsidy is limited, and it does not introduce significant distortions in markets, including international markets. Moreover subsidies or soft financing may be justified for projects where significant externalities are involved such as human health effects, or where there is a potential for damage to natural capital or irreversible environmental change. The PPP is an established policy principle in most CEEC, but requires further implementation. In a number of NIS, establishment of the PPP requires a clearer separation of the roles which the state plays as a source and regulator of economic activity.</p>
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## **2. Trends in Environmental Expenditure**

4. Information about environmental expenditure is weak in most Environment Ministries: responsibility for investments is usually with other Ministries, local government or the enterprise sector. However, this lack of information and analysis limits the ability of Environmental Ministries to develop realistic environmental strategies, including financing strategies. Further efforts should be made to strengthen this capacity in Environment Ministries.

4a. To support the preparation of this report, several studies were carried out. The main results and trends are presented below. (See annex 1 for more details.) These studies focused on environmental projects only. As such, they generally do not capture expenditures for integrated projects which achieve both economic and environmental goals, such as cleaner production and energy efficiency projects, nor the environmental benefits of improved environmental management in enterprises and investments to modernise production equipment.

### **(i) CEEC/NIS Environmental Expenditures**

5. In most CEEC/NIS, domestic sources constitute more than 90% of total environmental expenditures. However, in the complex and difficult transition to a market economy, the overall levels, sources and types of expenditures are likely to vary. A Danish-supported study assessed trends in pollution abatement and control expenditures in six countries selected to represent a range of economic and environmental characteristics: Georgia, Hungary, Lithuania, Poland, Russia and Slovenia. Some of the main findings were:

- there is a positive correlation between environmental expenditure and level of economic development (GDP per capita);
- environmental investment as a percentage of GDP in the countries most advanced in the transition (Poland, Hungary, Slovenia) compare very favourably with those in high-income OECD countries; and they are similar on a per capita basis with lower-income OECD countries;
- environmental investment expenditures appear to be virtually non-existent in Georgia; in Russia, they are comparable with low-income OECD countries as a percentage of GDP, but less on a per capita basis;
- environmental investments measured in constant prices appear to have peaked in 1994; Poland is the exception, where environmental expenditures have grown throughout the 1990s;
- the public sector share of environmental investments in Hungary, Lithuania and Poland has increased in the 1990s; where it is possible to break down public sector investments, the share of local governments' budgets has increased;
- Environmental Funds account for about 40% of environmental expenditures in Poland; 20% in Hungary, Lithuania and Slovenia; 5% in Russia; and they do not exist in Georgia;
- air and water protection account for the overwhelming share of investments; air is most important in Poland and Slovenia; water in the others; waste is an insignificant share in all countries except Hungary.

### **(ii) External Environmental Aid and Finance**

6. External finance and assistance can play a catalytic role and complement domestic financial resources. Donor assistance is mostly in the form of grants, usually for technical assistance. IFIs channel funds from international capital markets in the form of loans on terms which are more attractive than

those available on the domestic commercial markets of the recipient country. The Project Preparation Committee is a network in which donors and IFIs co-operate in order to accelerate environmental investments. The Global Environment Facility, which provides grants and concessional funding to meet the agreed incremental costs of measures to achieve approved global environmental benefits.

7. The main findings on external environmental aid and finance are:

- assistance from most, though not all, donors appears to have peaked and is now declining;
- finance from IFIs appears to have declined, particularly in CEEC; however, IFI finance for non-environmental projects with significant environmental benefits appears to have grown in recent years;
- CEEC continue to receive more than twice the aid and finance received by the NIS, and many times more on a per capita basis;
- the level of assistance and finance going to the NIS has not changed significantly since 1994, while that going to CEEC has declined slightly;
- the largest share of assistance and finance goes to the water sector;
- from 1993 through March 1998, the PPC has had 58 projects under implementation or approved, with total investment costs amounting to 3.3 billion ECU, of which donor funding totalled about 319 million ECU; the bulk of projects have been in the municipal (water) sector and in CEEC (for further details see the PPC report).

**(iii) Foreign Direct Investment**

8. FDI has grown rapidly in recent years and is now at roughly the same level as official aid and financial flows. The way in which these private funds are channelled will probably have a much more significant effect on the environment over time than official aid and financial flows. The main trends appear to be:

- while further analysis of the environmental implications of investment flows is needed, preliminary evidence suggests that no more than 10% is going to the environmentally sensitive heavy industry sector;
- CEEC/NIS receive a relatively small proportion of FDI globally: as of 1995, about 2/3 of total investment going to Latin America and the Caribbean and less than 1/4 of that going to Asia; but almost three times as much going to Africa.
- reflecting investors' assessment of opportunities and risks, FDI is concentrated in relatively few countries; in 1996, 74% went to five countries - Poland, Russia, Hungary, the Czech Republic and Kazakstan;
- a review conducted at an OECD workshop suggested that environmental liability had not been a major impediment to FDI, in part because of policies put in place. However, there is some evidence that concerns about environmental liability have deterred investors and delayed deals in some sectors.

**3. Demand for Environmental Financing**

9. Demand for environmental financing reflects the willingness and ability of polluters and users of environmental resources to pay for investments to resolve environmental problems. It is shaped by the level of economic development and the stringency with which environmental standards are set and enforced. Demand will also reflect the perceived and actual severity of environmental problems. Generally, demand in CEEC is still low compared with that in OECD countries. In the NIS, the demand is even lower and, in some cases, virtually non-existent. The supply of finance mirrors these situations.

10. In many CEEC, there has been a recent shift in demand for environmental investments. In most countries: economic growth has resumed, generating resources for investment; macroeconomic stabilisation has helped reduce interest rates and inflation; the reduction in subsidies on energy, water and other resources has created incentives for greater efficiency; new trade relations have required exporters to pay more attention to environmental issues; new policies, including NEAPs, and instruments have promoted better implementation of the Polluter-Pays Principle (PPP); decentralisation is creating demand for better environmental services at local level; public awareness and, in some cases, willingness-to-pay for environmental improvements is increasing; and obligations under regional and global environmental conventions are leading to investments, often with international assistance.

11. Accession to the EU will transform the demand for environmental investments in the countries concerned. It has been estimated that the total investment costs for the 10 accession countries to comply with EU Directives for air, urban and industrial wastewater and solid and hazardous waste management are on the order of 122 billion ECU. This is equivalent to investments several times higher as a proportion of GDP than in most OECD countries and more on a per capita basis. There may also be important distributional and social issues to address as prices for water and other environmental services increase. While these figures require careful interpretation, and do not address the benefits of expenditures, they far exceed current levels of expenditures and the resources which might be made available by the EU. Designing cost-effective strategies which strike a realistic balance between the demand for, and supply of, finance therefore will be a massive challenge.

12. No equivalent demand exists in the NIS: several are classified as developing countries; and in the others, generally low personal and corporate wealth levels contribute to low-level demand for environmental investments; high inflation and stringent lending conditions discourage most types of investment; enterprises and local governments are still heavily subsidised; NEAPs are under development and have yet to be implemented; public demand for environmental improvement is weak; the "implementation gap" to objectives in regional and global environmental conventions is greater than in CEEC. The low demand for environmental improvements has made it difficult secure financing within the state budget and to establish new domestic financing mechanisms.

#### **4. Specific Issues in Environmental Financing**

##### **(i) Enterprise Sector**

13. EBRD estimated that by mid 1997, the private sector accounted for 50% or more of GDP in all CEEC and six out of 12 NIS. However, privatisation has not necessarily led to better economic or environmental performance in enterprises. In some countries governments hold minimum shares in enterprises and sometimes provide credits and subsidies that shield these enterprises from competition. In other countries, the new owners are former managers from the period of state ownership who have found it easier to maximise personal wealth by selling corporate assets and obtaining subsidies than by improving corporate performance in the marketplace. In addition, political will to enforce environmental requirements has been weak in many countries.

14. Even allowing for weaknesses in the existing incentive structure, "win-win" investments are not occurring at the rate originally hoped for. In addition to a weak policy framework they are constrained by limited availability of affordable investment capital, and lack of information and skills in enterprises and financial institutions to develop and implement projects. Cleaner Production programmes and related financing mechanisms can play a useful, though probably modest, role in overcoming these obstacles in CEEC and some NIS. More substantial investments will be required to comply with EU standards.

Strengthening environmental management in enterprises and undertaking win-win investments, nevertheless, are important first steps. The most important needs in most countries are to strengthen demand for better environmental performance by subjecting enterprises to budgetary, policy and other incentives which promote efficient use of resources, and to pursue effective environmental compliance.

**(ii) Municipal Environmental Finance**

15. In the transition, responsibility for the provision of a variety of environmental services has been decentralised. Local or regional authorities inherited a backlog of unfinished projects, infrastructure in varying states of disrepair, and, frequently, sharp declines in support from central budgets to finance new and replacement capital. Where these services generate pollution as a by-product (e.g., district heating and wastewater collection, treatment and discharge) existing pollution control or treatment systems were most often outdated, inefficient or non-existent.

16. Demand for environmental services is closely related to the process of (fiscal) decentralisation and the ability of communities to cover costs through user charges or local taxes. Generally, operation and maintenance costs for municipal services are covered by annual user fees. Capital costs can be substantial and unless they are financed over 15 to 20 years they may require significant increases in user charges. This, in turn, may exceed the ability of some households to pay for basic services like water or energy. The revenue base for municipal services is particularly weak in the NIS where household incomes significantly lag those in most CEEC. Yet, the capital requirements in the NIS are substantial because infrastructure is in a serious state of deterioration and resulting, *inter alia*, in increased risk of water-borne disease.

17. Subsidies have played an instrumental role in the development of municipal environmental infrastructure in CEEC/NIS, and OECD countries, often representing more than three-quarters of capital outlays. While subsidies reduce the revenue requirements that must be covered from user charges (thereby shifting the costs of services to a broader range of taxpayers), they often engender perverse effects, encouraging end-of-pipe investments at the expense of pollution prevention and providing incentives for oversizing of infrastructure. They have also promoted overuse of energy and water, thus exerting upward pressure on user fees once financial support from central budgets was withdrawn or reduced.

18. Across-the-board subsidies are blunt instruments to treat cases of social hardship. Support targeted on the most needy households is more efficient if decoupled from the pricing of services. Subsidies can also be useful to support project preparation for capital investments, or public-partnerships. They should not discourage energy and water conservation or public-private partnerships.

19. As the demand in the advanced transition countries for better quality environmental services rises and municipalities invest in controls to achieve EU environmental quality standards, new mechanisms will be needed to finance the higher investment costs. Indeed, encouraging new initiatives are already underway in some of the advanced transition countries. Support should be given to efforts to develop least-cost solutions and creative financing arrangements, such as those involving public-private partnerships, issuance of municipal bonds, and the use of municipal guarantees.

20. In the NIS, the most immediate need in the municipal sector is to restore or improve the quality of basic services. The institutional capabilities to manage these services and place them on a firmer financial foundation also need to be strengthened. Subsidies and external financing will be needed to catalyse improvements in the environmental performance of the municipal sector in the NIS in the absence of rapid increases in per capita incomes and affordability of services.

**(iii) National Budgets**

21. Despite significant decentralisation in some CEEC, the national budget continues to be a major source of environmental expenditures. In some of the Baltic States, for example, Public Investment Programmes have prioritised environment and this has helped leverage donor grants and IFI loans. Some CEEC have also become more effective at linking their environmental programmes with the national budget cycle. However, in many CEEC/NIS, there is much inertia in the budget process, with resources sometimes allocated on the basis of precedence rather than efficiency considerations. In many NIS, allocations for the environment have fallen significantly. In some cases, extra-budgetary funds are financing monitoring equipment and other services normally provided by the state budget. As the transition progresses, there is a need to promote greater involvement of the private sector in environmental investments.

22. Protection of biodiversity has traditionally been financed from the public sector. In many CEEC/NIS, it was a positive legacy of the former regimes. However, demand for biodiversity has been low in most, though not all, CEEC/NIS during the transition. Frequently the demand has come from international or external sources. Further efforts are needed to stimulate domestic demand, for example through public information and awareness campaigns.

23. Financing biodiversity projects is difficult because they tend to be small, geographically dispersed and lacking revenues which could be used to repay loans. However, efforts are being made to integrate biodiversity into economic activities, e.g. agriculture and tourism. Experimentation with a range of user fees is increasing e.g. timber sales, hunting permits, sale of seedlings, revenue for recreational activities. A group of experts recently proposed that a pan-European accreditation scheme should be established to help identify biodiversity projects. This should be linked with efforts to strengthen project preparation capacity and the development of mechanisms to “bundle” small projects into packages which could be supported by financing institutions. Alternatively, mechanisms should be established specifically to finance small projects; the Global Environment Facility’s Small Grants Programme provides one model. Public-private partnerships may also provide opportunities to expand financing e.g. by allowing private sector partners to develop non-sensitive areas in return for services provided in protection areas.

**5. Environmental Financing Mechanisms**

24. Substantially more experience has been gained with environmental financing mechanisms since the Sofia Conference. Donors and IFIs have helped to supplement domestic sources of capital and to transfer know-how. Domestic financing mechanisms have evolved in CEEC, but there is a continuing challenge to ensure that soft financing is used transparently and in the most cost-effective manner and that it does not inhibit the emergence of more market-based mechanisms. This is also true for finance provided directly from the State budget. Strengthening financing mechanisms in the context of higher costs of compliance with EU legislation and the potential benefits of facilitating access to EU sources of financing will become the major challenge in accession countries. For the NIS, establishing financing mechanisms in the current state of low demand will be the main challenge. It is unlikely that such mechanisms will be established without external finance and/or technical assistance. In both groups of countries, new opportunities will arise as a result of the Kyoto Protocol.

**(i) Environmental Funds**

25. Environmental funds, capitalised largely by environmental charges and taxes, continue to play an important role in CEEC. They are strongest in Poland where expenditures from the National Fund were nearly \$500M in 1996, and the contribution from all funds accounted for about 40% of domestic environmental expenditures. New funds have been established in several countries since Sofia and the capacities of some existing funds strengthened. The revenue base of funds has improved and new disbursement mechanisms have developed. However, substantial further efforts are required in most funds to meet the recommendations in the St. Petersburg Guidelines. If this could be achieved, environmental funds could play an important role in the EU accession process.

26. In the NIS, the institutional base and legal foundations of funds are much weaker. In Russia, the expenditure of the Federal Environmental Fund in 1996 was about \$14M. The fees and fines which generate the Fund's revenues are much lower than in CEEC. For example, the charge for one ton of SO<sub>2</sub> in Russia is \$1.22, compared to \$20.80 in Estonia and \$82.61 in Poland. Failure to recirculate revenues and their diversion for non-environmental purposes has undermined collection efforts. Overall the capacities and effectiveness of funds in the NIS are weak. However, in Russia the system of environmental funds is being consolidated and strengthened with Danish support. The experience from this project will provide valuable lessons for other NIS.

**(ii) Environmental Funds Capitalised by Donors and IFIs**

27. Four types of funds have been established, capitalised by donor grants and/or IFI loans:

- Debt for environment swaps (Switzerland agreed a swap with Bulgaria at the time of the Sofia Conference; Poland had previously concluded swaps with several donors);
- Environmental Investment Funds (in Lithuania and Latvia capitalised by PHARE grants);
- Environmental Development Fund (a joint stock company owned by the Slovenian government, operating as a non-profit organisation);
- Pollution abatement facility capitalised by an IFI loan (the National Pollution Abatement Fund in Russia was capitalised by \$55m loan from the World Bank and a \$13m Swiss grant).

28. All of those funds, with the exception of the Polish EcoFund, operate on a revolving basis, providing soft loans for priority projects. As a review of the Polish EcoFund illustrated, institutions established by donors and/or IFIs can have a catalytic effect in mobilising other resources and enabling the establishment of solid institutional capacity that encourages greater financial discipline and improved accountability and transparency. The opportunities for replicating financing mechanisms using IFI loans and/or donor grants are probably greater across the region than the opportunities for establishing new mechanisms based on debt for environment swaps.

29. A second stage of the National Pollution Abatement Facility in Russia is under development which would involve a more region-oriented approach, with loans on-lent through financial intermediaries (e.g. banks, environmental funds) with repayment guarantees provided by regional governments. This type of approach could be promising in other NIS, provided there is adequate capacity to prepare projects and manage the project cycle, adequate demand for financing, and adequate supply of co-financing.

**(iii) Mechanisms Established in Existing Financial Institutions**

30. IFIs and donors have established credit lines for environmental investments in co-operation with financial intermediaries in the region. With the local partner sharing the credit risk, these credit lines can

reduce the costs of preparing projects and conducting financial appraisals of borrowers, and facilitate IFI support for smaller loans than would be available directly from the IFI. In addition, this co-operation often contributes to the strengthening of the local financial intermediary, particularly in appraising environmental projects and non-environmental projects with environmental components, and demonstrating the financial attractiveness of win-win environmental investments.

31. A similar approach is represented by the Cleaner Production Revolving Facility established by NEFCO with Norwegian support to provide co-financing for investments in Northwest Russia and the Baltic countries, primarily Lithuania. For this facility, NEFCO relies on local Cleaner Production Centres to assist project promoters in the identification and preparation of projects.

**(iv) Support from EU Institutions**

32. As part the EU's approach to enlargement, the European Commission is now reorienting the PHARE Programme. This reorientation has two key objectives - to better facilitate the EU applicant countries' efforts to adopt, implement and enforce the *acquis communautaire*, and to further decentralise the management of PHARE programmes to the EU applicant countries themselves. A key feature of this reorientation is an increase in PHARE's level of investment support and a refocusing of its technical assistance and institution building support onto those critical weaknesses in applicant countries' accession strategies. The result of this reorientation is a significantly enhanced level of support for the environment sector.

33. As well as innovative institution building support mechanisms (such as civil servant exchanges and access for applicant countries to internal EU programmes like LIFE), the reorientation will see a concentration in the investment support area on four critical aspects of enlargement: direct promotion of compliance with EU norms; integrated regional development programmes; support for the banking sector to better meet the needs of small and medium enterprises; and, support to large scale infrastructure projects.

34. In addition, a centrally managed Large Scale Infrastructure Facility will be established, with 150 mecu for 1998-99, to co-finance investment projects with the IFIs, solely in environment and transport. A second centralised facility is now being established to address the needs of applicant countries which will not start accession negotiations in 1998 (i.e. Lithuania, Latvia, Romania, Bulgaria and Slovakia). This second facility will focus on privatisation, SME development and border control.

35. In the period 2000-2005, support from the Commission to central Europe will expand. A facility with 1 billion ecu per annum will be established focusing on financing accession-related investments in environment and in transport. In addition, a separate agricultural facility of 500 mecu per annum will assist the applicant countries' in integrating their agricultural policies with those of the EU. Lastly, the PHARE programme, with a budget of 1.5 billion ecu per annum, will continue its support for general approximation and other critical areas such as regional development.

36. The European Investment Bank (EIB), the EU's long-term financing institution, will also expand its efforts to support the accession process. The EIB has been active in CEE since 1990, signing loans to a total value of about 6.4 billion ECU in its ten countries of operation (the Bank does not lend in the NIS). In the period to the year 2000, the EIB has a mandate to lend 3.5 billion ECU in the 10 accession countries; in addition a special "Pre-adhesion Facility" of 3.5 billion ECU has been established to support the accession process. Within this financial framework totalling 7 billion ECU, EIB will seek to increase lending to help accession countries comply with the environmental *acquis* of the European Community; recent studies suggest that the needs are particularly large in the fields of water, wastewater, air pollution

and solid waste though considerable preparations will be necessary to establish viable projects for financing. In stepping up its environmental activity in CEEC, the EIB expects to work closely with the services of the European Commission as well as other multilateral and bilateral sources of finance.

**(v) Commercial Banks**

37. With the exception of credit lines established by IFIs, commercial banks have not played a significant role in environmental financing in CEEC or NIS. This is because of the low demand for financing, the more attractive lending opportunities available to banks and lack of knowledge of environmental financing. However, there are some promising developments involving banks co-operating with environmental funds in financial appraisals of investments, management of loans, and/or co-financing. Allocation of costs and risks are the key factors in these arrangements.

**(vi) Green Equity, Loan Guarantees, and Leasing**

38. Green equity schemes were one of the initiatives proposed at Sofia. Such schemes are used to invest in start-up companies or companies expanding into the environmental goods and services industry. After Sofia, there appears to have been different expectations among donors, IFIs and CEEC, concerning the objectives and organisation of green equity schemes. As a result, only one scheme has come to fruition and several others have stalled. Existing venture capital funds may in some countries provide a sufficient source of equity for companies entering the environmental goods and service industry. However, green equity schemes could also play a potentially useful role in helping to support the broadest possible scope of environmental investments.

39. The main experiment with loan guarantees appears to have been in the Czech Republic, where the US supported a domestically owned and operated Municipal Infrastructure Financing Company which guaranteed loans for, inter alia, environmental investments (often co-financed by the State Environmental Fund). Another important development concerned an EBRD loan in St. Petersburg for a water project; the first IFI supported project where the guarantee was provided by a municipality rather than the central government.

40. There is an increasing market for environmental leasing arrangements, whereby private firms provide equipment that is needed in the provision of environmental services. Typically, leasing involves vehicles or equipment used in solid waste collection, transport, and disposal. Such arrangements enable municipalities to spread costs out over a longer period and mitigate the need for capital financing.

**(vii) Global Environmental Financing Mechanisms**

41. The Kyoto Protocol to the Framework Convention on Climate Change (FCCC) provides for several co-operative mechanisms. These will be discussed further at the Conference of Parties in Buenos Aires in November 1998. If the operational rules of these mechanisms are agreed, there would seem to be considerable scope for CEEC/NIS to benefit from the opportunities provided. The mechanisms would allow:

- *Annex I countries to fulfil their reduction obligations as a group rather than one by one.* Countries can agree among themselves how they wish to distribute the burdens and choose whichever mechanisms they see fit. All such arrangements must be announced at the time of ratification of the protocol. Emissions “bubbles” cannot be created at a later stage unless the parties to the FCCC agree to modify the rules.

- *Joint implementation between the industrialised countries.* This means that cross border investments reducing greenhouse gas emissions among parties listed in Annex I of the FCCC will count towards meeting the obligations of the country where the investment originates. Pilot projects have been carried out and systems of verification and certification are being developed.
- *Trading emission rights between countries with quantified emissions commitments.* At the moment only Annex I countries have taken on such commitments, and the rules for emissions trading are still to be developed. If countries agree that private companies can invest - subject to general rules and controls - the reduction units may become the property of companies and like all other property, it can be bought and sold.
- *Annex I countries investing in emission reductions outside their group through the Clean Development Mechanism (CDM).* Such reductions may be credited from the year 2000, and these credits can be accumulated to meet future obligations. A share of the proceeds for project activities should be used to contribute to adaptation measures in the countries concerned, probably through some sort of fee for CDM approval. Consequently, the “price” of certified emissions reductions will be higher than the cost of the climate gas reductions themselves. The role of the CDM awaits clarification, but there seems to be general agreement that the CDM is neither a fund nor a new institution. The CDM would rather be a regulatory mechanism controlled by the parties to the Kyoto Protocol charged with ensuring proper certification, and serving in a clearing-house function to the extent requested.

42. As of March 1997, the Global Environment Facility (GEF), managed by the World Bank, UNDP and UNEP, has allocated 223.3 million USD in the CEEC/NIS region, which represents 16.6% of total GEF allocations throughout the world. Within its main program areas, the GEF has allocated 57.1 mUSD to reduce greenhouse gases, 109.3 mUSD to reduce emissions of ozone-depleting substances, 33.4 mUSD to protect biological diversity, and 23.5 mUSD to address water pollution problems of international water bodies. The GEF could play an expanded role, particularly in the NIS, provided there are increased efforts to strengthen project identification and preparation capabilities. The “Capacity 21 Fund”, managed by UNDP, could play an important role in this regard, particularly in the NIS, as well as in developing the human resources necessary for preparing and implementing national “Agenda 21” and environmental action plans.

## **6. Recommendations**

43. In all countries of the region, there is a need to strengthen the demand for environmental financing and to better integrate environmental considerations into economic and financial sector reforms. In addition:

(i) There is now a pressing need in the NIS to develop or strengthen the policy and institutional frameworks required in order to mobilise and channel domestic financial resources more effectively. Technical assistance can play an important role in this respect. IFIs and donor financial resources can also play a crucial catalytic role in supporting the establishment and development of domestic mechanisms to finance pilot and demonstration environmental projects.

(ii) CEEC will need to strengthen domestic mechanisms in order to finance the investments required to comply with EU environmental standards. Mechanisms also will be needed to ensure that the

substantial resources provided by EU institutions (PHARE, EIB) will be used to address priorities in a cost-effective manner.

(iii) Within their mandates, the EAP Task Force and PPC should work to implement these recommendations. Concerted action will be needed by all partners; CEEC/NIS, IFIs, donors and increasingly the private sector. A report assessing progress should be prepared for the next Environment for Europe Ministerial Conference.

44. More specifically:

(i) Both CEEC and NIS should develop environmental financing strategies adapted to their particular circumstances. These strategies will be most effective when they establish clear targets, address both the demand for and supply of finance, and integrate policy, institutional and investment measures. They should also consider social and distributional issues. Donors and IFIs can provide valuable support in assisting CEEC/NIS to develop strategies at the national, regional, and sectoral levels. The financing strategy developed by Lithuania provides a useful model, but further work is needed to develop methodologies for preparing such strategies.

(ii) CEEC/NIS should strengthen project preparation capacity, though the needs are different among countries. In many CEEC, considerable progress has been made in establishing capacity in this area; the lessons from the US-supported EAPS Programme are helpful in this respect. However, there are still major capacity gaps in municipalities, enterprises and communities which could create important bottlenecks and inefficiencies in EU accession investment programmes. Further analysis of the obstacles should be undertaken to help design capacity building programmes. In the NIS, there is a widespread need to strengthen capacity for, and understanding of, the investment project cycle. In some NIS, establishing effective project implementation units to assist in implementing NEAPs could be a useful first step.

(iii) In the enterprise sector, financing mechanisms which provide capital on affordable terms to support win-win investments can play an important role in most CEEC/NIS. Experience is being gained with various approaches and this should be assessed and shared. As foreign investment flows increase, their positive and negative environmental impacts should be monitored and measures to maximise their environmental benefits identified. More generally, there is a need to strengthen incentives for private sector investments.

(iv) Efforts to develop more market-based schemes to finance municipal environmental services have been successful in some CEEC and NIS and should receive greater support (e.g. municipal bond and guarantee schemes). The results of these efforts should be assessed and disseminated widely. Factors which either promote or impede public/private partnerships in the provision of municipal environmental services, including the role of subsidies, should be analysed, and work carried out to develop projects demonstrating the potential of such partnerships.

(v) Expansion of capacity to identify and prepare biodiversity projects is a important need. Awareness programmes should be strengthened, and incentive measures which can help raise revenues introduced. Mechanisms either to help “bundle” groups of projects into financeable packages, or to support small projects should be developed.

(vi) Further efforts should be made to strengthen the capacities of Environmental Funds in CEEC to help them meet the recommendations of the St. Petersburg Guidelines; if this could be achieved, they could play an important role in channelling domestic and external resources for investments linked to EU

accession. In some CEEC, particularly where private capital markets are developing quickly, greater efforts should be made to ensure that funds, through their provision of subsidised finance, do not inhibit the emergence of more market-based financing mechanisms. As the legal, institutional and revenue base of Environmental Funds in the NIS is clarified and strengthened, donor assistance could provide important institutional support and co-financing opportunities.

(vii) Promising forms of environmental financing mechanisms capitalised by IFI loans and/or donor grants should receive further support. In most cases, this type of approach will be easier to replicate with IFI loans and/or donor grants than debt for environment swaps. Alternative models, and key factors in their successful application in different countries, should be assessed.

(viii) Experimentation with a range of other facilities, revolving funds and credit lines should be continued. These mechanisms can contribute to the transition to more market-based financing in the municipal sector and help finance win-win investments in the enterprise sector.

(ix) Experience with equity, guarantee and leasing schemes in the region is limited, thus the role to be played by such schemes requires further analysis. Nevertheless, they can be useful in specific circumstances and their further development should take account of experience to date.

(x) Opportunities for making more effective use of global financing mechanisms should be further examined in the appropriate forums. There is an important potential for the Global Environmental Facility to “seed” the development of environmental financing capacity in the NIS. A high priority should be given to developing concrete means for realising the important opportunities provided by the Kyoto Protocol for enhancing financial and technology flows from advanced industrial countries to CEEC/NIS.

(xi) There is a need to reinforce co-operation and the exchange of experience on environmental financing among CEEC/NIS. More effective ways should be found to share the positive experiences of CEEC with NIS. Partial untying of aid to enable donors to hire CEEC experts to participate in NIS programmes would help. The countries engaged in EU accession would benefit from sharing their experiences in developing and implementing environmental finance strategies. The EU should help them to do so.

(xii) A better understanding and analysis needs to be developed of the opportunities for, and constraints to, environmental financing. This is particularly true in environment ministries which generally do not control the financial means, but need to improve their understanding of, and influence over, the main financing mechanisms. To assist in these tasks, better information should be collected, analysis deepened, and indicators for the demand and supply sides developed. In particular, CEEC/NIS need to develop better indicators of their environmental expenditures. An agreed methodology should be developed to assess the environmental components of non-environmental projects. Further analysis of the application of economic instruments in CEEC/NIS, both as incentives for pollution reduction and revenue-raising instruments, should also be conducted.

**ANNEX 1. SELECTED DATA ON DOMESTIC AND EXTERNAL ENVIRONMENTAL FINANCE IN CEEC/NIS**

**Table 1. Domestic pollution abatement and control investments in selected CEEC/NIS, as a share of GDP, 1990-96 (in per cent)**

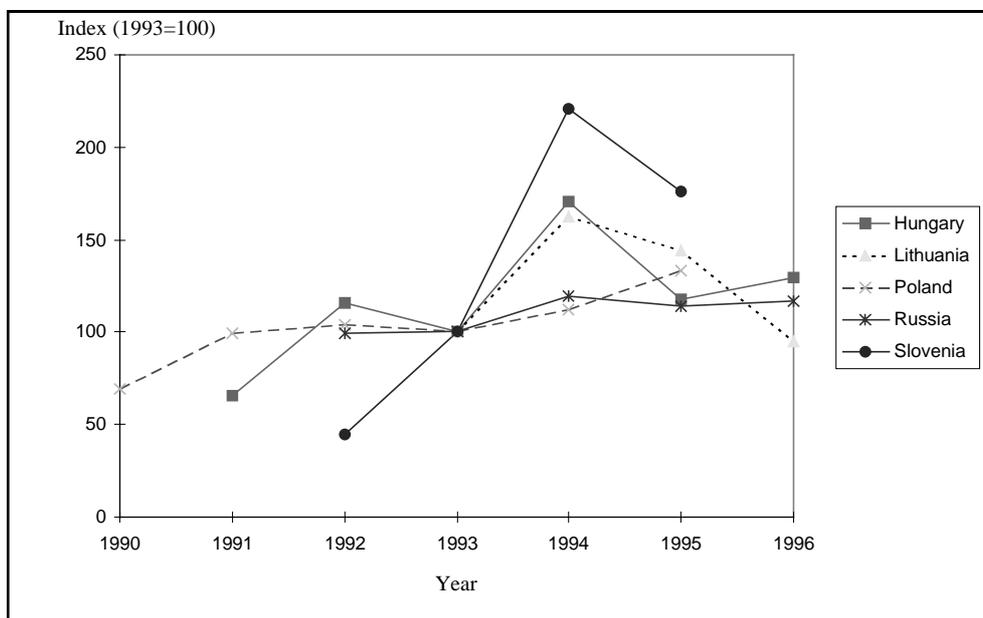
	1990	1991	1992	1993	1994	1995	1996
Georgia	..	..	..	..	..	0.00	0.00
Hungary	..	0.39	0.66	0.52	0.80	0.55	0.61
Lithuania	..	..	..	0.87	1.03	0.79	0.46
Poland	0.70	1.01	1.04	0.97	1.01	1.11	..
Russia	..	..	0.28	0.34	0.39	0.39	0.36
Slovenia	..	..	0.16	0.30	0.61	0.44	..
Netherlands	..	0.55	0.62	..	..	..	..
Portugal	0.48	..	..	..	0.40	..	..
Germany	..	..	..	0.54	..	..	..

Notes:

1. OECD defines pollution abatement and control (PAC) activities as “purposeful activities aimed directly at the prevention, reduction and elimination of pollution or nuisances arising as a residual of production processes or the consumption of goods and services. This definition specifically excludes expenditure on natural resource management and activities such as the protection of endangered species (fauna and flora), the establishment of natural parks and green belts and activities to exploit natural resources (such as the supply of drinking water).” (OECD, Pollution Abatement and Control Expenditure in OECD Countries, 1998.) This methodology has been used to collect comparable data from the six case study countries, as national definitions of environmental expenditures vary. OECD regularly collects data on Member countries using this methodology.
2. External assistance and finance are, in principle, not included in this table or in figures 1, 2 and 3 which concern domestic finance.

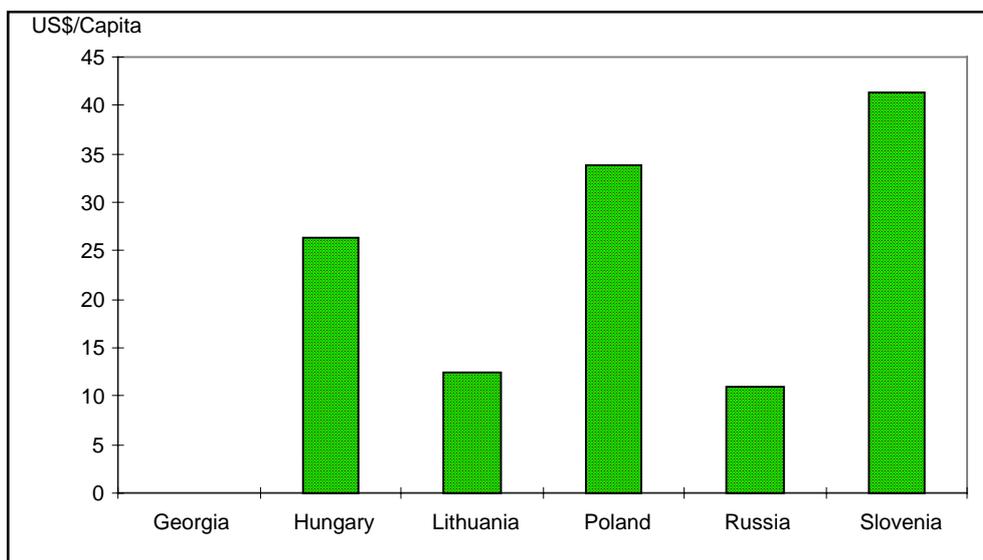
Source: OECD and COWIconsult, based on national statistics.

**Figure 1. Trends in domestic pollution abatement and control investments, 1990-96  
(index using constant domestic prices, with 1993=100)**



Source: COWIconsult, based on official national statistics.

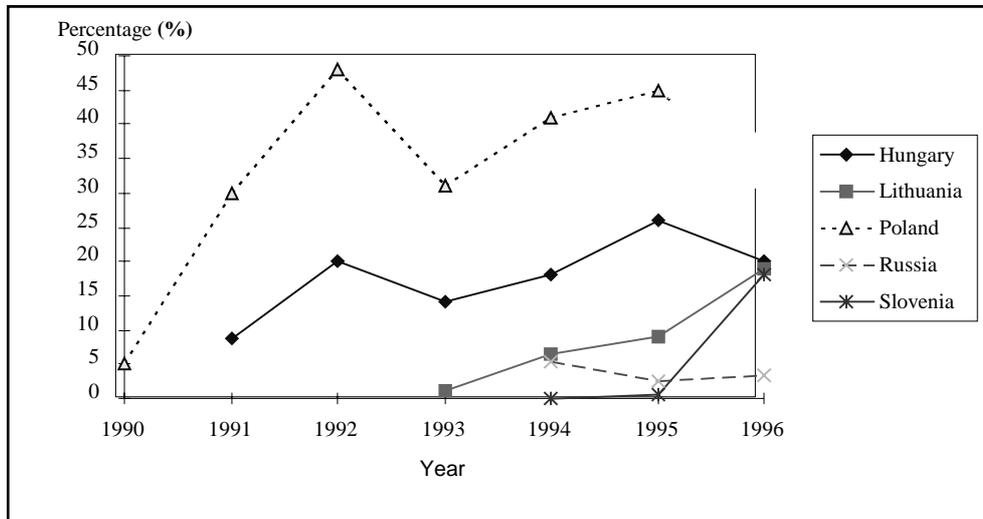
**Figure 2. National pollution abatement and control investment per capita, 1996  
(in US\$, using PPP exchange rates)<sup>1</sup>**



Note:

1) 1995 data has been used for Poland.

Source: COWIconsult, based on national statistics.

**Figure 3. Share of Environmental Fund spending in total PAC Investments, 1990-96**

Notes:

For Slovenia, 1996 data are estimates. Georgia does not have an environmental fund.

Source: COWIconsult.

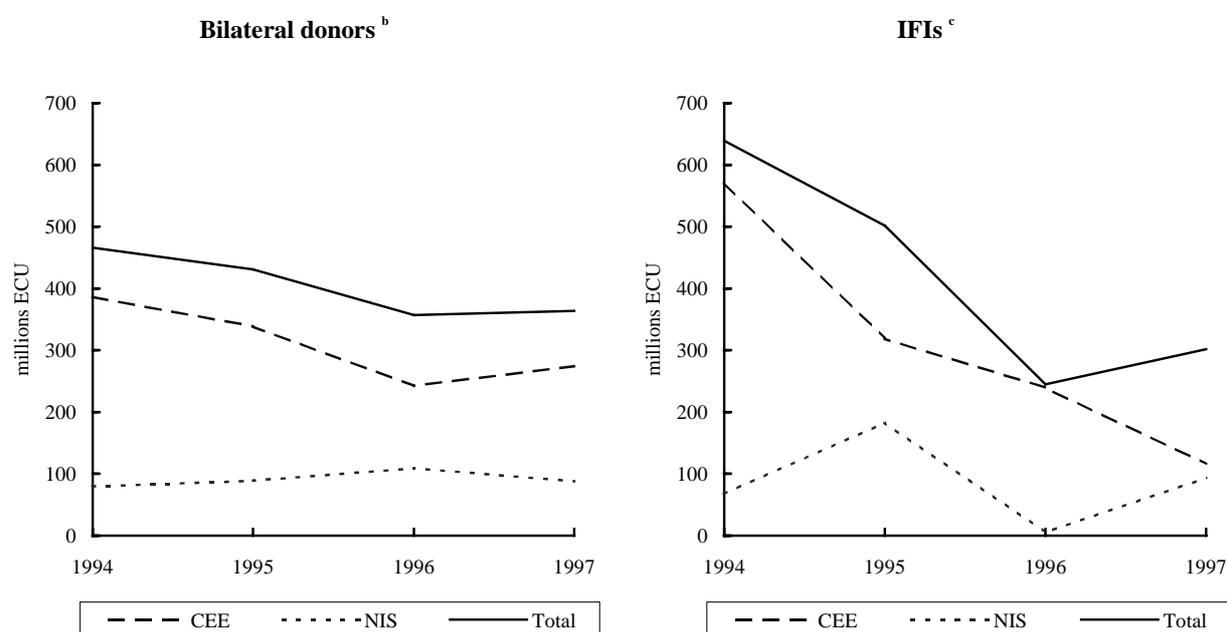
**Table 2. Trends in Donor/IFI Commitments for Environmental Assistance and Finance**

	Type <sup>a</sup>	1994	1995	1996	1997 <sup>1</sup>	TOTAL
<b>Bilateral Donors</b>						
Japan <sup>2</sup>	G / L / O	130.7	93.3	9.4	1.4	<b>234.9</b>
Norway	G	5.9	11.0	10.8	9.1	<b>36.7</b>
Switzerland	..	19.4	17.4	28.0	9.8	<b>74.6</b>
United States	G	70.5	41.1	19.0	..	<b>130.5</b>
Austria	..	14.1	3.4	5.4	..	<b>22.9</b>
Denmark <sup>3</sup>	G	32.9	54.2	41.6	68.0	<b>196.7</b>
Finland	G	7.7	9.7	14.5	14.0	<b>46.0</b>
France	G / S	7.0	2.1	2.5	9.5	<b>21.0</b>
Germany	..	18.0	28.5	47.5	26.4	<b>120.4</b>
Netherlands	G	16.1	11.1	16.8	26.8	<b>70.7</b>
Sweden <sup>4</sup>	G	27.39	..	18.12	13.05	<b>58.57</b>
United Kingdom <sup>5</sup>	G	3.6	4.2	3.0	3.2	<b>13.9</b>
EC -DG I						
-- Phare <sup>6</sup>	G	138.9	142.1	134.1	166.1	<b>581.2</b>
-- Tacis	G	..	12.0	24.0	28.5	<b>64.5</b>
EC -DGXI	G	1.6	0.8	0.9	0.9	<b>4.2</b>
Sub - Total EU		239.8	268.0	290.2	343.4	<b>1141.4</b>
<b>International Financial Institutions</b>						
Asian Development Bank <sup>7</sup>	G	0.0	0.4	0.0	1.1	<b>1.5</b>
EIB <sup>8</sup>	L	95.0	200.0	15.0	0.0	<b>310.0</b>
EBRD - environmental projects only	L/G	322.2	62.0	96.2	93.9	<b>574.3</b>
NEFCO	E / G / L	19.4	6.1	11.4	12.5	<b>49.4</b>
GEF	G	5.5	28.5	24.5	10.2	<b>68.7</b>
NIB	L	41.5	0.3	9.0	118.2	<b>169.0</b>
World Bank - environmental projects only <sup>9</sup>	L	155.1	204.3	88.6	66.2	<b>514.1</b>
EBRD - env. components of non-env. projects <sup>10</sup>		..	157.1	200.6	113.1	470.7
EBRD - energy efficiency projects		..	64.1	71.0	60.4	195.6
WB <sup>9</sup> - non-env. projects with env. components <sup>11</sup>		851.4	739.8	99.1	222.5	1912.8
WB - projects with significant env. benefits		..	..	288.0	716.6	1004.6

## Notes:

- .. data not available. a) G-grants; L-loans; S-soft loans; E- equity; O-export credits and other forms of assistance.
- Some responses are incomplete for 1997.
  - 1994: 123 mECU loans; 1995: 20.3 mECU export credits.
  - 1995 data include grant equivalent of soft loans. Data do not include the Danish environmental investment facility, created in 1995. Through 1996, the facility provided 3.7 mECU in equity and 6.6 mECU in loans.
  - Preliminary data for the Swedish EPA and Swedish International Development Agency only. Includes some energy projects. Due to a change in fiscal year, part of 1995 data are included in 1996; not included in subsequent figures and tables.
  - Data include only technical assistance grants through the Environmental Know How Fund.
  - Preliminary data. May include some double counting.
  - Technical assistance only.
  - EIB signed 555 mECU of projects with significant environmental benefits in 1997, including 425 mECU for flood damage reconstruction. Data on such projects in previous years are not available.
  - World Bank loans to Turkmenistan not included.
  - Values of environmental components only, as calculated by EBRD. 1994 data are not available.
  - Total values of loans with environmental components.

Source: OECD, based on donor and IFI data.

**Figure 4. Trends in External Environmental Assistance and Finance to CEECs and NIS<sup>a</sup>**

Notes:

- a) Totals are larger than sum of technical assistance and investments, as some donors did not classify commitments.  
 b) Includes EC. Some responses are incomplete for 1997.  
 c) Environmental projects only.

Source: OECD, based on donor and IFI data.

**Table 3. Donor/IFI Commitments for Environmental Investments by Sector (mECU)**

	<i>1994</i>	<i>1995</i>	<i>1996</i>	<i>1997<sup>1</sup></i>
Air/Energy	488.93	384.84	53.99	94.87
Water	143.10	133.09	198.01	177.79
Waste	58.76	0.43	10.04	12.96
Biodiversity	6.86	5.16	39.56	5.31
Other <sup>2</sup>	5.65	15.08	31.86	67.49
<b>Total</b>	<b>703.30</b>	<b>538.60</b>	<b>333.46</b>	<b>358.42</b>

Notes:

- 1) Preliminary data.  
 2) Includes commitments to Environmental Funds.

Source: OECD, based on donor and IFI data.

**Table 4. Donor/IFI Commitments of Environmental Assistance and Finance to CEECs and NIS<sup>a</sup> by Recipient Country (1994-1997)**

Partner Country	Technical Co-operation		Investments	Total <sup>b</sup> (mECU)	Total per capita (ECU)
	Policy development	Investment preparation			
Albania	20.7	0.9	24.9	60.5	17.9
Bosnia & Herzegovina	0.3	0.9	32.2	33.5	9.3
Bulgaria	20.2	3.0	90.1	136.3	16.0
Croatia	0.9	1.2	88.8	90.9	20.2
Czech Republic	39.8	5.0	313.5	397.3	38.5
Estonia	7.5	7.1	73.5	132.1	88.8
FYROM <sup>c</sup>	1.3	0.0	5.4	10.3	4.8
Hungary	16.1	0.5	172.9	208.4	20.4
Latvia	9.5	7.0	96.5	123.9	48.8
Lithuania	15.7	10.7	86.9	138.5	37.1
Poland	34.6	18.2	339.3	603.5	15.6
Romania	12.4	25.1	169.3	249.4	11.0
Slovak Republic	9.6	2.2	132.1	145.2	27.2
Slovenia	19.1	0.3	20.2	43.9	22.8
Region wide - CEE	12.6	16.6	23.0	107.2	
<b>Total CEEC</b>	<b>220.3</b>	<b>97.6</b>	<b>1668.6</b>	<b>2486.1</b>	<b>20.9</b>
Armenia	0.1	0.3	0.0	0.4	0.1
Azerbaijan	0.4	0.3	63.4	64.0	8.5
Belarus	3.2	3.2	1.0	7.4	0.7
Georgia	42.0	0.4	18.0	60.4	11.1
Kazakhstan	14.5	1.1	0.0	15.6	0.9
Kyrgyzstan	3.0	0.0	0.0	3.0	0.7
Rep. of Moldova	4.8	1.3	1.4	7.5	1.7
Russian Federation	103.0	17.7	94.6	375.2	2.5
Ukraine	22.2	11.7	22.8	56.7	1.1
Uzbekistan	11.6	8.4	67.5	87.4	3.8
Region wide - NIS	36.5	0.0	0.0	36.5	
<b>Total NIS</b>	<b>240.3</b>	<b>44.5</b>	<b>268.8</b>	<b>714.2</b>	<b>2.6</b>
Region CEE + NIS	11.6	2.2	0.0	13.7	
<b>TOTAL</b>	<b>472.2</b>	<b>144.3</b>	<b>1937.4</b>	<b>3305.2</b>	<b>8.4</b>

Notes:

a) Preliminary data.

b) Totals are larger than sum of technical assistance and investments, as some donors did not classify commitments.

c) Former Yugoslav Republic of Macedonia.

Source: OECD, based on donor and IFI data.

**Table 5. Foreign Direct Investment to CEEC/NIS:****The five main recipient countries**

	<i>FDI inflows 1996 (millions US\$)</i>	<i>FDI inflows per capita 1996 (US\$)</i>	<i>Cumulative FDI inflows 1989-96 (millions US\$)</i>
Czech Republic	1 264	123	7 120
Hungary	1 986	195	13 260
Poland	2 741	71	5 398
Kazakhstan	1 100	67	3 067
Russia	2 040	14	5 843
<b>Total - five main recipient countries</b>	9 131	41	34 688
<b>Total for all CEEC/NIS</b>	12 330	31	43 888

Source: EBRD.

## ANNEX 2. KEY REFERENCES

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