

MAKING JOINT IMPLEMENTATION WORK: LESSONS FROM CENTRAL AND EASTERN EUROPE

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I. INTRODUCTION

Through its flexible mechanisms, the Kyoto Protocol on climate change creates incentives for industrialized countries to invest in clean, climate-friendly technologies in countries with economies in transition¹ as well as in developing countries. Two of Kyoto's mechanisms—Joint Implementation (JI) and the Clean Development Mechanism (CDM)—are project-based instruments, designed to foster the transfer of technology for cost-effective greenhouse gases (GHG) emissions reductions. In contrast to the third flexible mechanism—emissions trading—JI and CDM ensure real emissions reductions through investment, and, hopefully, technological innovation and sustainable development in developing countries and transition economies. This explains why developing countries and most transition economies attach such an importance to JI and CDM.

Although clear international rules for the flexible mechanisms will reduce uncertainties and facilitate the engagement of private investors in JI and the CDM, a conducive environment in recipient countries will determine where investors go.

This *Climate Note* looks at the institutional infrastructure that host countries should have in place to attract and channel JI investment.

Once the international rules are set, climate-friendly investment under the Protocol is likely to flow to JI or CDM host countries with working national institutions and stable overall macroeconomic environment. It will then be up to the national institutions to channel this investment to the types of projects that promote national development objectives. The Note outlines a set of functional responsibilities for countries that wish to host climate-friendly development projects. A national JI program must address three current problems: make sure that project baselines are accurately assessed and the appropriate number of credits transferred; ensure that projects are integrated into national development plans; and reduce the high transaction costs associated with investment. One potentially promising domestic administrative model for addressing these objectives simultaneously is

the national environmental protection funds, which are already established in many countries.

A national JI program must address three current problems: make sure that project baselines are accurately assessed and the appropriate number of credits transferred; ensure that projects are integrated into national development plans; and reduce the high transaction costs associated with investment.

This publication draws from the rich experience of Central and Eastern European countries in Activities Implemented Jointly (AIJ)—the JI pilot phase launched in 1995. Two-thirds of all AIJ projects are carried out in these countries with investment from Western countries.² Currently, the 11 economies in transition in Central and Eastern Europe included in Annex I of the Climate Convention are hosting a total of 68 AIJ projects as well as a number of others not formally registered with the Convention Secretariat.³ (See *Table 1*.) Central and Eastern European experience in hosting AIJ projects suggests broader lessons for countries that are hopeful recipients of investment under the Kyoto Protocol's JI mechanism. Some of these same lessons also apply to developing countries, which



Table 1

Activities Implemented Jointly (AIJ)

UNFCCC List of AIJ I

Country	Number of Projects	Project
Bulgaria	1	Energy
Croatia	1	Energy
Czech Republic	3	Energy
Estonia	20	Energy
Hungary	3	Energy
Latvia	23	Energy
Lithuania	8	Energy
Poland	3	Energy
Romania	4	Energy
Slovakia	2	Fuel Sv
Slovenia	0	No proj
Total Projects	68	

Source: World Resources Institute

are eligible to participate by hosting projects under the Protocol's Clean Development Mechanism.

II. WHY JOINT IMPLEMENTATION PROGRAMS IN RECIPIENT COUNTRIES?

The Kyoto Protocol specifies GHG emission reduction targets for 38 industrialized countries, including 11 countries in Central and Eastern Europe. In addition to the domestic policies and measures that these countries will need to achieve their respective targets, the Protocol creates international, market-based flexible mechanisms, that enable countries to achieve emission reductions with other states. (See Box 1.) The intention of the mechanisms is to allow emission re-

ductions to take place where their costs are the lowest. One of these mechanisms is Joint Implementation.

Although JI is a "market-based" mechanism, it will require government intervention and involvement at several levels. Because the Kyoto Protocol establishes that JI participation must be voluntary, involved governments will have to formally approve individual projects. Government responsibilities will also include monitoring project implementation and accounting for emission reductions achieved. As projects reduce emissions, governments will need to periodically transfer emission reduction units (ERUs, or "credits") to the investor, and register these transactions in an international registry system. At the national level, governments will have to develop

and implement project selection criteria and approval procedures. Simultaneously, these processes must be made transparent and participatory.

Successful execution of these and other responsibilities will require new competencies, embodied in a national JI program. Broadly, national JI programs in host countries are expected to do the following:

- *Ensure that baselines are appropriately assessed and that the number of ERUs transferred is consistent with the actual number of emissions reduced by JI projects. If baseline assumptions are not accurate, and the amount of ERUs transferred exceeds the amount of emissions reduced by projects, the host country could encounter subsequent compliance problems.*



Two mechanisms designed by the Kyoto Protocol to attract investment in projects that reduce GHG emissions are Joint Implementation and the Clean Development Mechanism:

Article 6: **Joint Implementation (JI)** is designed to foster the transfer of technology and enhancement of carbon sinks. Annex I Parties may transfer to, or acquire from, any other Annex I Party emission reduction units (ERUs) resulting from project activities that reduce GHG emissions or enhance removals by sinks during the first compliance period (2008-12).

Article 12: **The Clean Development Mechanism (CDM)** aims to assist developing countries not included in Annex I in achieving sustainable development and to allow Parties included in Annex I to use emissions reductions accrued from such projects to contribute to their compliance with their reduction commitments under the Protocol.

The Rationale: Flexibility mechanisms seek to assist Annex I countries in achieving their targets by allowing emission reductions to take place where they have the lowest possible cost. Simultaneously, they can foster technology transfer or financial flows to transition

and developing countries. Participation in flexibility mechanisms is voluntary.

The Mechanics (Article 3): The Kyoto Protocol creates “assigned amounts,” which represent the quantity of GHG emissions a country is allowed to emit during the first compliance period (2008-2012) under the Kyoto Protocol. If a country emits more than its assigned amount, it can use the mechanisms to purchase “parts of assigned amounts”, emission reduction units (ERUs) through JI or certified emission reductions through the Clean Development Mechanism.

- *Ensure compatibility of JI investment with national environmental or development objectives. The value of JI will depend upon whether projects contribute to national sustainable development priorities. To help ensure this, host-country JI programs should develop and implement sustainable development or environmental criteria for project selection.*
- *Reduce the high transaction costs associated with the project approval and implementation processes. This is particularly important given the hidden costs Central and Eastern European countries in Annex I will bear to ensure that the emission reductions are real. Without clear approval and implementation procedures, uncertainty and high start-up costs will deter JI investment. Host countries can do much to reduce transaction costs and become more attractive to investors.*

Developing these new capacities will be critical to JI success. National host-country institutions, therefore, need

capacity to implement a range of activities, services, and functional responsibilities. In addition, host country JI programs in Central and Eastern Europe will have to undertake these functions in a transparent and participatory fashion. Transparent and accessible information, as well as processes for public notice and comment, will allow non-governmental organizations and other interested actors to play an oversight role, increasing the credibility and accountability of the mechanism.

Many of the functional responsibilities of host-country JI programs are relevant for CDM hosts. Although the CDM is likely to be subject to more stringent and detailed international scrutiny and oversight, such issues as project approval, financing, public participation, and integration into development objectives are common to both mechanisms and will require similar capacities. In this context, the experiences from Central and Eastern Eu-

rope can be useful for developing countries that might host CDM projects.

III. MANAGING JOINT IMPLEMENTATION TRANSACTIONS

Successful JI projects will result in a transfer of emission reduction units (ERUs) from the host to the investor country. Several responsibilities emerge from this process. First, governments must ensure that the number of ERUs transferred reflects the amount of emission reductions generated by a project. Second, this transaction must be entered into national and international registry systems that will be required under the Kyoto Protocol for all Parties who have to meet specific emission targets.

Ensuring Additionality and Accurate Baseline Assessments. It is in the interest of host-country governments to ensure that projects are “*additional* to any that would otherwise occur,”⁴ that baselines are accurately assessed, and that



If ERUs do not represent real, additional GHG emission reductions, a JI host country may find it more difficult to meet its greenhouse emission obligations under the Kyoto Protocol.

the appropriate amount of ERUs are transferred. This will require oversight of baseline assessments, and monitoring and verification of project activities beyond those required under AIJ.

To understand why “additionality” and baseline assessments are important to JI, it is helpful to consider the Kyoto Protocol accounting system, which resembles double-entry bookkeeping. In the parlance of the Protocol, each country is allocated an “assigned amount” that represents the total quantity of greenhouse gas emissions a country can emit during the five-year period from 2008-2012.⁵ When a country *transfers* ERUs resulting from a JI project, these units will be deducted from the country’s assigned amount. For the country *acquiring* the ERUs, these same units will, in turn, be added to its assigned amount.⁶

Thus, if ERUs do not represent real, additional GHG emission reductions, a JI host country may find it more difficult to meet its greenhouse emission obligations under the Kyoto Protocol. Essentially, a JI project would reduce a country’s allowable emissions amount without making the actual reductions. Although most Annex I countries in Central and Eastern Europe will be able to meet their targets for the first commitment period (2008-2012), engagement in projects that are not additional, and the associated transfer of ERUs that do not represent actual re-

ductions can quickly become a serious risk, particularly if domestic emissions have the potential to grow rapidly and if ERU transfers become large.

To ensure that ERU transfers represent real, additional GHG reductions from JI projects, host-country JI programs will need to keep abreast of international baseline and verification guidelines, and will need to develop monitoring, reporting, and verification systems at the national level. Protocol Parties may decide on one of the following: standardized international verification systems, such as those envisioned for the CDM; verification systems that rely solely on national institutions; or a combination of national and international rules.⁷ In any case, JI offices must keep informed of any international rules and guidelines, and further implement necessary measures at the national level to ensure additionality and sound baselines. The importance of transferring an appropriate number of ERUs also suggests that governments will need to be involved in project negotiations where credit sharing arrangements are made.

Executing and Registering Transactions. Host governments will need to allocate ERUs to the project participants according to the terms of the project agreement.⁸ A government body, perhaps an office within the national JI program, will need to execute this function, as well as record the transaction within a national registry system. Governments will probably need to identify a registry “administrator” to maintain this national registry system.⁹

Where these institutional responsibilities lie will likely vary by country. If national JI offices do not undertake these responsibilities, governments must establish clear lines of communication between responsible bodies to ensure coordination and compliance with the obligations. This function is also necessary so that the host government maintains its eligibility to host JI projects and to transfer ERUs in which investors can have confidence.

IV. INTEGRATING JI INVESTMENT IN NATIONAL PRIORITIES

Project Selection Criteria: JI investors will primarily be concerned with the quantity and cost of emission reductions generated by projects. However, the appeal of JI for host countries is its potential to support technology transfer and national development or environmental objectives. If, however, recipient countries want to integrate climate protection into their development or environmental objectives, they need a set of actionable and measurable criteria to guide project review and selection.¹⁰

Some AIJ hosts from both Central and Eastern Europe and developing countries are already defining selection criteria according to their national environment or development objectives. Host country approaches to setting criteria for project selection have varied. (See Box 2.) For example, Poland’s requirement that JI projects should bring a net reduction of costs in meeting European Union environmental standards and should comply with the macroeconomic national and provincial policies is clearly aimed at channeling JI investment toward national development and political objectives.¹¹ Outside the



JI Selection Criteria of the Polish Government

- JI projects should ensure feasible match between estimated GHG emission reductions and real reductions.
- JI projects should not have an adverse impact on other elements or factors of the environment, such as air quality, waste water quality, or waste disposal.
- JI projects should contribute to Poland's overall environmental priorities. Where JI projects involve the installation of new equipment, they

should also lead to a net reduction (or at least no increase) in the facility's costs of meeting current and anticipated environmental standards (e.g., resulting from harmonization with the European Union environmental directives and other international treaty commitments). Thus, process changes and new technologies that prevent pollution are encouraged.

- JI projects should encourage efficient use, re-use, or recycling of natural resources.
- JI projects should introduce the latest technologies.

- JI projects should comply with the macroeconomic policies at the national and provincial levels.
- Eligible Polish partners are only those who could be expected to be solvent in the long-term.

Sources: *Activities Implemented Jointly: National Programmes for Activities Implemented Jointly Under the Pilot Phase*. The uniform reporting formats on national programmes submitted by Parties. Available online at: http://www.unfccc.de/program/aij/aij_np.html; and *Activities Implemented Jointly: Case Studies from Bulgaria, the Czech Republic, Estonia, Poland and Slovenia* (Szentendre, Hungary: REC and WRI, 2000).

Central and Eastern Europe regions, Costa Rica has used a similar integrated approach that seeks to use AIJ to implement a range of activities to enhance its development or political priorities.¹²

If recipient countries want to integrate climate protection into their development or environmental objectives, they need a set of actionable and measurable criteria to guide project review and selection.

Another approach is based on replicability—the repeated implementation of similar projects that transfer specific technologies.¹³ For example, the bulk of all AIJ investment in Baltic countries is channeled toward upgrading boilers and district heating systems through investment in renewable energy sources. Thirty five out of the total of 68 AIJ projects currently underway in 11 Annex I countries in Central and Eastern Europe are in energy

efficiency. The current choices of these countries suggest that the bulk of JI investment is likely to go to energy efficiency and renewables. Such projects reduce the high GHG intensity and the dependence of Central and Eastern European countries on imported fuel, primarily from Russia. The experience of Estonia and Latvia suggests, however, that such a repeated transfer of technologies is facilitated considerably by a long-term close collaboration with a committed investor. Estonia has been collaborating with Swedish companies, and the number of AIJ projects implies considerable comfort and capacity of both investors and hosts.¹⁴

Experience in the region suggests that whatever strategies are taken to establish priorities, countries must develop more actionable project selection cri-

teria.¹⁵ One reason for the observed lack of coherence between national priorities and AIJ projects is that, in most cases, the criteria have only recently been agreed upon and countries are still building their national JI programs. A more systemic flaw of the existing sets of criteria in Central and Eastern Europe is their generality, which is an obstacle to their application. For example, it is unclear how Poland will assess the AIJ projects' success or failure to meet its general requirement for integration with macroeconomic policies at both national and local levels.

In addition to general requirements, measurable development targets and more integrated approaches are needed for the Central and Eastern European countries that aspire to join the European Union. As a political priority for these countries, accession to the European Union places specific requirements on environmental and economic performance. National JI selection criteria can

The Convention has three main components or “pillars.” The first pillar sets rules and requirements for disclosure of environmental and other relevant information to the public by the government. The second pillar addresses is-

ues related to how the public and public-interest groups can participate in environmental decision-making. The third pillar deals with the right of the public and public-interest groups to seek judicial remedy for noncompliance by governments

and corporations within the legal obligations established by the first two pillars.

Source: The Convention on Access to Information, Participation in Decision-Making and Access to Justice in Environmental Matters, 1998. Available online at <http://www.unece.org/env/europe/ppconvent.htm>.

appropriately channel investment to reduce or complement the cost for achieving development, environmental, or other sectoral objectives linked to their preparation for accession.

Participation and Accountability to Local Stakeholders: JI investment in infrastructure and land-use projects will affect local stakeholders. This necessitates the adoption of consultation and information disclosure procedures. Strong local participation in project design and approval decisions will also help align JI investment to local and national development goals and priorities.

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For Central and Eastern European countries, transparency and accountability rules of national JI systems will need to comply with their international commitments embodied in the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters.¹⁶ (See Box 3.) Ten Annex I Central and East-

ern European countries are signatories to this Convention.¹⁷ Although much implementation work is still ahead, the Aarhus Convention provides the public with rights to (1) access to information, (2) participation in decision-making on programs, policies, and specific projects, and (3) access to courts and judicial redress. In short, the Convention provides a comprehensive framework for public oversight, transparency, and accountability of governments and investors.¹⁸ These three rights should guide the development of JI programs and specific project activities.

The Aarhus Convention has implications for both national JI programs and specific project activities, as the latter are in sectors specified in Annex I of the Aarhus Convention. Box 4 lists the specific activities requiring public participation procedures under the Convention.

Applying the principles of transparency, participation, and accountability to JI projects will require governments to create channels for NGOs and other constituencies to:

- *Have access to information about selection criteria and procedures; baseline, additionality, and, where appropriate, environmental impact assessment; as well as project monitoring information.*
- *Participate in the design of national JI programs and be consulted in the JI project selection and approval processes. NGOs and the public should be consulted and provide input to the project selection criteria as well as to specific project selection.*
- *Have access to information about JI projects and their performance.*

Although some countries already consult public-interest groups in the design of the selection criteria (e.g., the Czech Republic), most AIJ host countries currently do not provide public information or consultations. For example, in developing a case study on AIJ in Bulgaria, the Bulgarian NGO EnEffect had difficulty finding any information, either because the government itself didn't have access to such information or it was unclear who might have such access.¹⁹ In Estonia, where local and municipal governments, district heating utilities, and residential housing cooperatives have been leading AIJ initiatives, no central agency has undertaken the design



and establishment of a comprehensive and transparent national JI program. The Stockholm Environmental Institute-Tallinn, an Estonian NGO, has recently initiated a consultative process for selection criteria and procedures.²⁰ This group acts as a secretariat for a JI Steering Group of high-level government officials who are developing the JI system for Estonia.²¹

National JI programs, therefore, must address two main functional responsibilities that will help integrate JI financing into national development goals and ensure consistency with Kyoto Protocol objectives. Such programs, on the one hand, need to design and implement a set of clear selection criteria and, on the other, establish procedures that guarantee their transparency and accountability to the public. Irrespective of the differences between CDM and JI under the Kyoto Protocol, these two functional responsibilities are relevant to both of them.

IV. ENHANCING FINANCING FOR JI

Building strong national JI programs can help overcome a serious problem encountered in the AIJ pilot phase—financing difficulties. In particular, the high project start-up and other transaction costs could prove to be a major barrier to JI investment. Governments can improve financing prospects by standardizing the approval processes, packaging and promoting viable projects, ensuring national JI eligibility, providing data and information for investors, and mobilizing domestic investment potential.

Government Approval: The Kyoto Protocol requires governments to approve JI projects.²² Approval authority is a key component of the JI political and administrative setup. Reviews of the AIJ pilot phase have

led governments and observers to acknowledge that limiting bureaucratic excess and associated transaction costs will help the market for emission reductions to develop.²³

Countries that lack standardized and predictable approval procedures will not gain the confidence of prospective JI investors. Companies—both local and foreign—need clear guidance.

Unclear approval mandates, complicated procedures, and red tape tend to create unhealthy rivalries among agencies and delay decisions.

For example, the local government of Decin, the Czech Republic, initially approved an AIJ project without consulting any national agency. The national government subsequently cancelled the approval, the Ministry of Environment and Ministry of Foreign Affairs clarified their roles in AIJ approval and the project was eventually re-approved.²⁴ Unclear approval authority delayed start-up, increased costs, and undermined investor confidence. In many countries, approval by a single institution turns out to be either insufficient or inappropriate. The clear delegation of authority will streamline the approval process, build investor confidence, and cut costs both for investors and host countries.

Countries that lack standardized and predictable approval procedures will not gain the confidence of prospective JI investors. Companies—both local and foreign—need clear guidance about procedures, criteria, decision-making authority, monitoring requirements, and enforcement provisions to

Box 4

Annex I of the Aarhus Convention

Annex I lists the activities requiring procedures for public participation. Examples of those sectors include the following:

- A. Energy sector (e.g., mineral oil and gas refiners, nuclear and thermal power stations);
- B. Production and processing of metals (e.g., installations for the processing of metal ore, steel);
- C. Mineral industry (e.g., cement, asbestos, etc., installations);
- D. Chemical industry (e.g., a wide variety of installations for organic and inorganic chemicals, fertilizers, health products);
- E. Waste management (e.g., incinerators, landfills);
- F. Waste-water treatment plants with a capacity exceeding 150,000 population equivalent;
- G. Infrastructure (e.g., railways, roads, inland waterways, ports, overhead electrical power lines);
- H. Extraction of minerals and water (e.g., groundwater extraction, water transfer, oil and natural gas extraction and transfer).



assess risks and transaction costs. Such guidance is currently missing, if information at the Convention Secretariat is any indication.²⁵ Some countries are using the Uniform Reporting Format to give information about JI procedures and designated authorities. The information, however, is either outdated, inaccurate, or obsolete.²⁶ For many countries, though, no information on procedures and designated authorities is available at all.

A promising approach to lowering project approval costs is the development of Framework Memoranda of Understanding (MoU) between governments. Several such MoU already exist between economies in transition and other Annex I countries, such as the agreement between Switzerland and Romania, or the standard MoU format developed by the Polish JI Secretariat.²⁷ MoU typically outline the basic requirements for projects, such as monitoring, independent verification, project criteria, and perhaps even dispute settlement. Although these agreements cannot substitute for formal government approval needed for individual projects, they provide a framework for cooperation between governments and consequently reduce project approval costs, particularly between countries that will jointly undertake multiple projects.

Maintaining Eligibility for JI. Country eligibility to participate in JI is likely to be conditioned upon satisfying other obligations under the Kyoto Protocol. According to the Protocol, if the compliance of a Party transferring ERUs (i.e., a JI host country) is found to be questionable, the Party acquiring that ERU *cannot* use them to fulfill its own obligations until the question of compliance is resolved.²⁸ Satisfaction of other criteria may also

Box 5

Project Bundling

Energy Efficiency Strategy to Mitigate GHG Emissions in Bulgaria. The project objective is to reduce energy and GHG emission intensity and air pollution by increasing the energy efficiency of a district heating company, apartment buildings, schools, hospitals, and street lighting. The project has a replication component designed to create similar initiatives in 30 other towns.

Geothermal and Environmental Project in Poland. The objective of the project is to reduce air pollution and associated health and environmental damage

caused by the burning of coal in households and district heating plants by developing indigenous, nonpolluting energy sources in Poland. The project substitutes geothermal energy for coal in 15,000 residential and commercial buildings located in four municipalities in the Podhale region of Poland.

Sources: *An Assessment of the World Bank Collaborations Focused on the Environment.* Background paper and case studies, prepared by WRI for Partnership and Participation in Environmental Management. Workshop organized by the World Bank, 1998.

be established as prerequisites for JI participation.²⁹ This suggests that JI investing is far more risky in countries that are unlikely to comply with broader Kyoto Protocol obligations.

Kyoto Protocol commitments require that Annex I countries develop national systems for measuring and reporting emissions (including sinks); build national registry systems; provide timely reporting of national inventories and communications; and ultimately reach national targets during the 2008–12 period. If investors feel that a country may not comply with one or more of these obligations, it will profoundly decrease the attractiveness of investing in JI projects. Therefore, JI investment is likely to be more concentrated in countries with institutional capacity and a strong political commitment to the Kyoto Protocol.

Although the broader Kyoto Protocol obligations may not fall under the responsibility of the JI program, there are still significant implications for JI offices. Such offices will need to be a

force within their own governments that try to ensure that broader obligations are met. This will require institutional arrangements and communication channels that link JI offices with other domestic agencies responsible for inventory management and national reporting.

Facilitating project identification, portfolio development, and bundling. The entities most qualified to identify GHG reduction opportunities are often local companies and operators. The generation of proposals by local operators for JI financing will allow countries to develop project portfolios and, thus, reduce the costs for project identification.³⁰ Despite the abundance of emission reduction opportunities, most countries do not have viable projects identified, a prerequisite for financing.

To encourage and support local companies and utilities to propose projects, host country JI programs will need to provide information and assistance—a capacity-building and in-



formation service. Domestic legislation will also be needed to provide incentives for project development. Such legislation should allow local companies to generate ERUs from approved projects, either to trade or to offset their own company emissions.

If country experiences in other environmental areas such as water treatment or air pollution reduction, are any indication, some, if not most project proposals generated locally will be small-scale.³¹ Such projects are not attractive for investors, often fail to meet the requirements of financial institutions, and are, therefore, not easily “bankable.”³² Yet, such small projects are often cost-effective, beneficial to local stakeholders, and consistent with national development or social objectives. Examples include the local geothermal energy project in Poland or the energy efficiency project for small towns in Bulgaria. (See Box 5.)

Host country JI programs can be positioned to identify such small projects, which combine GHG emission reduction and sustainable development objectives, and bundle them together for in-

vestment purposes. A portfolio of projects bundled together can ensure greater project diversity and allow investors to spread the risks.

Most host country program services and functional responsibilities are common for both JI and CDM. They require an administrative focal point in a JI or CDM host country. The building of completely new institutions can involve significant investments in time and money. The question, therefore, is whether there are existing organizations upon which human or institutional capacity can build.

V. ENVIRONMENTAL FUNDS AND JI

Annex I countries in Central and Eastern Europe—recipients of AIJ investment—have experimented with different administrative models for managing JI. Institutional arrangements and designated agencies, however, are currently unable—and often unauthorized—to address all the tasks needed for effective JI management.³³ Limited financial and human resources further constrain program development. Therefore, the successful development of

JI programs will depend partly on whether easily replicable institutional models can be found that reduce costs and build on existing institutional and human experience. The national environmental funds offer potential for JI or CDM purposes. This could be done by establishing a JI “window” in an existing fund, chartering a new JI fund, or creating special national JI implementation bodies. This section looks at what fund characteristics can be relevant and useful for these national programs.

Environmental funds have proliferated over the last decade as instruments for environmental financing. In 1997, they numbered 46 worldwide, with 11 more in the process of being established and other 45 proposed. Although the financial structures, funding sources, and funding priorities differ (see Box 6), one characteristic is common to all funds—they are a nationally controlled financing mechanism providing reliable long-term funding for domestically defined environmental objectives.³⁴

All Annex I economies in transition have established environmental funds for domestic environmental protection

Box 6

Environmental Funds Structure and Funding Sources

Financial structures and funding sources vary widely among environmental funds. Some funds are endowments; others operate as sinking funds, which re-channel their entire principal and investment income over a fixed period of time; and a third group are revolving funds, replenished on a regular basis either through new revenues or loan repayments. The majority of funds in Central and

Eastern Europe are, in essence, revolving funds, replenished primarily by domestic revenue sources. Only two countries in the region—Poland and Bulgaria—have revolving funds based on domestic revenue sources and separate funds established through debt-for-environment swaps. Some funds co-manage external financing and grants. In contrast, the majority of funds in developing countries are being financed

either by debt-for-nature swaps or grants from bilateral and multilateral donors.

Sources: Ricardo Bayon, Carolyn Deere, Ruth Norris, Scott E. Smith. *Environmental Funds: Lessons Learned and Future Prospects*. Available online at <http://economics.iucn.org/> (issues-20-01); *Environmental Protection Funds in Central and Eastern Europe: Case Studies of Bulgaria, the Czech Republic, Hungary, Poland and the Slovak Republic*. REC. 1994.



Created: 1989 by Parliament to finance investment in the environment.

Fund Sources: Environmental fees and charges, and earnings.

Income Level and Holdings: Domestic revenues: \$335 million. Equity, property, and other assets: \$500 million. (1994 data)

Targets: Investment in pre-selected

projects ranging from renewable energy to wild marsh preservation.

Financing: Grants, preferential loans, equity, guarantee schemes, and municipal bonds.

National Partners: Bank for Environmental Protection (set up and owned by the fund), Eco-Fund, Provincial and county environmental funds, private investors.

International Dimension and Co-managed

Funds: Key player in international program implementation with: EU-Phare, GEF, G24 Bilateral donor schemes, World Bank, the Nordic Investment Bank, other international financial institutions, private sector investors. (Total co-managed external funding: \$300 million over 1990-1995)

Source: PPC report to the Third Ministerial Conference "Environment for Europe" in Sofia. Oct. 23-25, 1995. PPC Secretariat.

and cleanup. Box 7 provides an example of one such fund from Poland. In Central and Eastern Europe, funds have performed a dual policy role. On the one hand, they are instruments to disburse money to achieve national environmental goals. On the other hand, they often make strategic contributions to environmental policymaking.³⁵ With their array of services and functions designed to implement policies at project level, facilitate financing, build public-private partnerships, and enhance local capacity and participation, funds provide replicable models to build on in institutionalizing JI programs.

Enhancing Sustainable Development. Perhaps most important in a JI context, environmental funds can channel environmental investment into projects that meet a set of development or environmental priorities, as defined by the country.³⁶ Their big advantage is that they combine environmental policy requirements with those of financing, or they directly link project financing—public or private—to public policy priorities.

Enabling Public Participation. Environmental funds can also address the issue of broader public participation on spending priorities and decisions. Supervisory boards of funds in Annex I economies in transition, for example, often include representation from national agencies, municipal governments, parliaments, private companies, and NGOs.³⁷ The boards set fund spending strategies and priorities, making sure that these reflect national environmental priorities. This useful model, however, is far from sufficient for a JI management institution. Certain JI projects are likely to come under the provisions of the Aarhus Convention and it should be applied in such cases. In addition, the maintenance and disclosure of monitoring information from JI projects is instrumental to secure public confidence that real emissions match projections and transfers.

Disseminating Information and Building Local Capacity. Most funds in economies in transition have "help" services to build local capacity to develop projects that meet certain

criteria. Help menus range from information packages with criteria and practical guidance for project applicants, to project development extension services. The funds also work with a pool of environmental impact assessment, audit, and project preparation experts or companies. Some countries have established accreditation or licensing procedures for such experts or their companies. This infrastructure can be expanded to support local entities in working with investors for the development of JI projects.

Facilitating Financing. Environmental funds in Central and Eastern Europe have successfully combined domestic and international financing, as well as leveraged private and public financing for larger projects. For example, a project in Poland that switches coal-based district heating plants to geothermal energy was co-financed by the World Bank and co-funded by the Polish environmental fund and the European Union.³⁸ An environmental project in Estonia, involving 11 small municipalities, combines financing from the European Bank for Reconstruction and

In 1999, Poland integrated in a Climate Convention Executive Office (CCEO) three previously autonomous units dealing with its commitments under the UNFCCC and the Kyoto Protocol. The new, integrated CCEO has three units:

(a) *The Climate Convention Secretariat* supports the inter-ministerial Climate Convention Steering Committee, which oversees Poland's progress toward the implementation of its commitments under the UNFCCC and the Kyoto Protocol;

(b) *The Greenhouse Gas Section* prepares Poland's national communications and inventories;

(c) *The JI Secretariat* reviews and proposes projects for approval by the Minister of Environment. It has developed evaluation criteria facilitating the selection of project proposals. Over its four years of operations, the JI Secretariat has received more than 60 AIJ project proposals. In practice, only three AIJ programs are currently being implemented in Poland.

Previously each of these units existed in a different organization. Now the CCEO is based at the National Fund for Environmental Protection and Water Management. The fund is the larg-

est Polish institution financing the implementation of environmental policy under supervision by the Minister of Environment. The three climate units and the CCEO operate as a specialized climate "window" at the fund. They perform a policy function (the Climate Convention Secretariat), a reporting function (the GHG Section), and a mechanisms function (the JI Secretariat).

Source: Zbigniew Karaczun, Mirosław Sobolewski, *Evaluation of the JI Pilot Phase in Poland. Institute for Sustainable Development. Activities Implemented Jointly. Case Studies.*

Development, and the Nordic Environment Finance Corporation, the Estonian environmental fund, the EU-Phare Program, Denmark, and other bilateral donors.³⁹

In such cases, environmental funds not only leverage financing and funding, they can bundle numerous small projects into a bankable portfolio, reducing transaction costs and financing prospects. Project financing can also address project-related capacity building. Although fund experience is not tied to the Kyoto mechanisms, their ability to create "bankable" projects that combine small-scale initiatives in the environment and leverage funding and financing sources is highly relevant.

In short, the JI-relevant advantages of Environmental Funds lie in their human and institutional capacity to:

- *Implement priority-driven project selection, review, and approval procedures.*

- *Link their spending strategies with national environmental priorities and ensure that projects are host-driven rather than investor-driven.*
- *Involve stakeholders.*
- *Build on established working relationships with political and financing institutions.*

However, most environmental funds in Central and Eastern Europe, with the possible exception of Poland and Estonia, have little or no experience in working with private investors. Yet, as a market-based mechanism, JI is intended to attract and mobilize predominantly private rather than public capital. JI management institutions will have to learn from what little experience environmental funds have and build their own capacity to attract and deal with private investors.

Thus far, Poland is the only economy in transition to integrate JI into a national environmental fund. Box 8 illustrates

this institutional arrangement—Poland's Climate Change Executive Office, with its three units, is based at the National Fund for Environmental Protection and Water Management and is drawing from its support structure.⁴⁰ Overall, however, this model remains largely unused among prospective JI host countries. And though Central and Eastern European countries might choose different institutional arrangements, they can reduce their costs by drawing on relevant experience and capacity of environmental funds, especially in countries where these funds have experience with private investors.

VI. CONCLUSION

International rules for the flexible mechanisms and eligibility requirements, still to be agreed to by Parties to the Convention, will reduce uncertainties for both investors and recipients. An agreement on international rules and requirements will be an incentive for countries to establish national JI programs.



Project-based investment under the Protocol is unlikely to become attractive to investors or meet national development goals without supportive and efficient host-country programs. Central and Eastern European countries must streamline selection, approval, disclosure, and participation procedures along with developing the capacity to propose projects to investors and leverage financ-

nologies that reflect national development priorities.

- *Involve NGOs and other local stakeholders in both the national JI program development and in specific project decisions.*
- *Facilitate project identification, portfolio development and capacity building for project development.*

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Assistance to Central and Eastern Europe from other Annex I Parties can help build these new capacities. To make such assistance effective, countries must first recognize the potential

ing from various sources. Otherwise, countries are likely to be left out of participation in the Kyoto mechanisms. As a result, they will miss opportunities for low-cost emission reductions and attracting new capital for clean development.

benefits from participation, make a political commitment to building capacity for Kyoto Protocol implementation, and identify clearly their capacity needs and priorities.

Developing effective national JI programs requires new capacities and administrative arrangements. The main functional responsibilities of an effective national JI program will:

- *Review baselines, monitor projects and transfer ERUs representing emission reductions from JI projects, execute JI transactions and enter them into the registry system.*
- *Communicate effectively with UNFCCC bodies and national agencies involved in Kyoto Protocol implementation.*
- *Develop clear, standardized project approval procedures.*
- *Create and implement project selection criteria or identify tech-*

5. For a more complete explanation of the Kyoto Protocol accounting process, see K. Baumert, E. Petkova, and D. Barbu, *Capacity for Climate: Economies in Transition After Kyoto* (Szentendre, Hungary: World Resources Institute and the Regional Environmental Center: 1999). Also see Article 3 of the Kyoto Protocol to the UNFCCC.

6. This same relationship is true for international emissions trading (under Article 17 and Article 3.10 and 3.11).

7. See UNFCCC, *Mechanisms Pursuant to Articles 6,12, and 17 of the Kyoto Protocol*, consolidated text for further negotiation on principles, modalities, rules, and guidelines, Note by the Chairman, document FCCC/SB/2000/4, July 28, 2000 (Hereafter, "Chairman's Text").

8. This will be the case provided that this power is not vested in an international body. See Chairman's Text, paragraphs 92 to 94.

9. Chairman's Text, Annex II, paragraph 4.

10. *Reports on AIJ Projects and Contributions to the Discussion of the Kyoto Mechanisms* (The Federal Ministry of the Environment, Nature Conservation and Nuclear Energy, 1999); *Evaluation of (non-sink) AIJ Projects in Developing Countries* (GTZ, 2000); Allen Hammond et al. *Environmental Indicators: A Systematic Approach to Measuring and Reporting on Environmental Policy Performance in the Context of Sustainable Development*. (Washington, DC: World Resources Institute, 1995).

11. Zbigniew Caraczun and Miroslaw Sobolewski, "Joint Implementation Procedures in Poland," Institute for Sustainable Development, published in *Activities Implemented Jointly: Case Studies from Bulgaria, the Czech Republic, Estonia, Poland and Slovenia* (Szentendre, Hungary: Regional Environmental Center and World Resources Institute, 2000).

NOTES

1. Economies in transition refer to the 11 Parties included in Annex I of the Climate Convention that are not in Annex II: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia. In this paper these countries are also referred to as those of Central and Eastern Europe.
2. UNFCCC, *Activities Implemented Jointly Under the Pilot Phase*, FCCC/SB/1999/5, September 15, 1999. All UNFCCC documents are available online at <http://www.unfccc.de>.
3. Activities Implemented Jointly (AIJ). List of AIJ projects: www.unfccc.de/program/aij/aijproj.html. Updated August 2, 2000.
4. Article 6, paragraph 1(b) of the Kyoto Protocol to the UNFCCC. Emphasis added.



12. United Nations Industrial Development Organization, *Generating Guideline Options to Support Decision-Making on Baseline-Setting and Additionality Assessment for Industrial Projects* (at UNIDO, Draft, 2000). See also, *The Costa Rican Experience During AIJ Pilot Phase*, available online at: http://www.cinde.or.cr/cgi/inv_opp/inv_environmental_pro.html.
13. UNIDO, 2000 (Draft).
14. Tiit Kallaste, "The JI Pilot Phase in Estonia," Stockholm Environment Institute-Tallin, published in *Activities Implemented Jointly: Case Studies from Bulgaria, the Czech Republic, Estonia, Poland and Slovenia* (Szentendre, Hungary: the Regional Environmental Center and World Resources Institute, 2000). See also, *Activities Implemented Jointly (AIJ)*. List of AIJ projects: www.unfccc.de/program/aij/aijproj.html. Updated August 2, 2000.
15. *Activities Implemented Jointly: Case Studies from Bulgaria, the Czech Republic, Estonia, Poland and Slovenia*. Op. cit.
16. *Convention on Access to Information, Public Participation, and Access to Justice in Environmental Matters*, available online at: <http://www.unece.org/env/europe/ppconvent.htm>. The Aarhus Convention was signed by thirty-nine UNECE member-countries and the European Union in June 1998 at the Fourth Environment for Europe Ministerial Conference in Aarhus, Denmark.
17. Among the 11 Annex I Central and East European countries, only Slovakia is not a signatory to the Aarhus Convention.
18. Elena Petkova with Peter Veit, *Environmental Accountability Beyond the Nation State. The Implications of the Aarhus Convention*. (Washington, DC: World Resources Institute, 2000).
19. Meeting of the Advisory Committee of the Capacity for Climate Protection Project, Regional Environmental Center, Szentendre, Hungary. October 1999.
20. "Financing for Climate Protection," workshop organized by the REC and WRI. February, 2000. See <http://www.rec.org/climate>.
21. Tiit Kallaste, "The JI Pilot Phase in Estonia," Stockholm Environment Institute-Tallin, published in *Activities Implemented Jointly: Case Studies from Bulgaria, the Czech Republic, Estonia, Poland and Slovenia*. Op. cit.
22. See Article 6.1(a) of the Kyoto Protocol to the UNFCCC and paragraph 24, Part I, of the Chairman's Text.
23. *Moving Forward and Setting Priorities after Kyoto*, highlights of the OECD and IEA Forum on Climate Change, March 12-13, 1998, Paris. OECD document COM/ENV/EPOC/DCD/DAC/IEA/M(98)1.
24. Vlastimil Karlik and Peter Hlobil, "Evaluation of AIJ in the Czech Republic," Program Energetických Uspor published in *Activities Implemented Jointly: Case Studies from Bulgaria, the Czech Republic, Estonia, Poland and Slovenia*. Op. cit.; Meeting of the Advisory Committee of the Capacity for Climate Protection Project, Szentendre, Hungary. October 1999.
25. *Activities Implemented Jointly: National Programmes for Activities Implemented Jointly under the Pilot Phase*. The uniform reporting formats on national programmes submitted by Parties. Available online at: http://www.unfccc.de/program/aij/aij_np.html.
26. *Evaluation of (non-sink) AIJ Projects in Developing Countries* (GTZ, 2000): Appendix 2. Access to information and transparency.
27. "Financing Climate Protection," Workshop organized by the Regional Environmental Center and the World Resources Institute, Szentendre, Hungary, February 2000.
28. See Article 6.4 of the Kyoto Protocol to the UNFCCC.
29. See Chairman's Text, Part I, paragraphs 18 to 24.
30. Despite the demand for environmental financing in Central and Eastern Europe, the newly formed Prototype Carbon Fund of the World Bank reports that they have problems and incur significant costs in identifying projects. Workshop on "Financing for Climate Protection," organized by the Regional Environmental Center and the World Resources Institute, Szentendre, February, 2000.
31. *Environmental Protection Funds in Central and Eastern Europe: Case Studies of Bulgaria, the Czech Republic, Hungary, Poland and the Slovak Republic* (Szentendre, Hungary: the Regional Environmental Center, 1994).
32. Many banks have requirements fixing the minimum amount they can finance. For instance EBRD's amount requirement is 5 million ECU. Projects, requiring smaller financing, are not considered "bankable" by EBRD.
33. *Activities Implemented Jointly: Case Studies from Bulgaria, the Czech Republic, Estonia, Poland and Slovenia* (Szentendre, Hungary: the Regional Environmental Center and the World Resources Institute, 2000).
34. *Environmental Funds: A New Approach to Sustainable Development*, report by the Inter Agency Planning Group of a Briefing on April 26, 1995 in Paris for Interested Members of the OECD/DAC Working Party on Development Assistance and Environment. James Hester, opening address.
35. Glen Anderson and Tomasz Zylics, *The Role of Environmental Funds in Environmental Policies in Central and Eastern European Countries* (Boston: Harvard Institute for International Development, 1996).
36. See R. Bayon, C. Deere, R. Norris and S. Smith, *Environmental Funds:*



Lessons Learned and Future Prospects (IUCN, 1999) available online at: <http://economics.iucn.org>.

37. *Environmental Protection Funds in Central and Eastern Europe: Case Studies of Bulgaria, the Czech Republic, Hungary, Poland and the Slovak Republic* (Szentendre, Hungary: the Regional Environmental Center, 1994).
38. PPC Report to the Fourth Ministerial Conference “Environment for Europe” in Aarhus, June 23-25, 1998; Environment for Europe. Project Preparation Committee for the Implementation of the Environmental Action Program for Central and Eastern Europe. PPC Project Pipeline, presented at the IVth Session of the Working Group of Senior Government Officials “Environment for Europe,” Geneva, February 13-15, 1995.
39. PPC Report to the Fourth Ministerial Conference “Environment for Europe” in Aarhus, June 23-25, 1998; Environment for Europe. Project Preparation Committee for the Implementation of the Environmental Action Program for Central

and Eastern Europe. PPC Project Pipeline, presented at the IVth Session of the Working Group of Senior Government Officials “Environment for Europe,” Geneva, February 13-15, 1995.

40. Zbigniew Caraczun and Miroslaw Sobolewski, “Joint Implementation Procedures in Poland,” Institute for Sustainable Development, published in *Activities Implemented Jointly: Case Studies from Bulgaria, the Czech Republic, Estonia, Poland and Slovenia* (Szentendre, Hungary: the Regional Environmental Center and the World Resources Institute, 2000).

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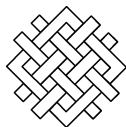
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