

The LRTAP POPs Protocol and its Relevance to the Global POPs Negotiations

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In June of this year, over 90 governments came together in Montreal to begin negotiations of a global agreement to reduce the environmental and public health threats caused by the global presence of certain 'persistent organic pollutants' (POPs). By the year 2000, these negotiators hope to conclude an agreement that will eliminate such chemicals and wastes as dioxin, PCBs, and DDT. The global negotiations came on the heels of a recent agreement made mostly by European countries to regulate many of the same POPs under a protocol to the Convention on Long-Range Transboundary Air Pollution (LRTAP). This brief analyzes the LRTAP POPs Protocol in light of the global negotiations begun in Montreal and the POPs Elimination Platform submitted by an international network of non-governmental organizations to the Montreal negotiations. Its purpose is to highlight the Protocol's potential and limitations as a model for a global agreement.

Aimed initially at responding to acid rain, the LRTAP is a framework agreement adopted in 1979 (entered into force 1983), setting out general principles for cooperation on air pollution abatement and establishing an institutional framework for coordinating research and institutionalizing consultation and information exchange between Parties. Most importantly, the LRTAP established a cooperative program for monitoring and evaluating air pollutants in Europe (EMEP). The Parties to LRTAP include the United States, Canada, and West and East European Countries, including Russia.

The real substance of the LRTAP regime is in the Protocols that are negotiated within the framework of the LRTAP, based on the ongoing advances in scientific understanding of air pollutants made through the EMEP. Other Protocols have been negotiated and adopted in the past on financing of the EMEP (1984), reduction of sulfur emissions (1985 & 1994), control of nitrogen oxides (1988), and control of emissions of volatile organic compounds (1991).

The Protocol to the Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants ("LRTAP POPs Protocol") was opened for signature at the UN Economic Commission for Europe (UNECE) ministerial meeting in Aarhus,

Denmark 23-25 June 1998. At the same time as the POPs Protocol was opened for signature another protocol on heavy metals was also opened for signature.

The LRTAP Parties should be commended for beginning to take action in advance of the global process. Other states and regions should follow the UNECE's example in taking immediate action on POPs. In the global negotiations in Montreal, several countries – members of the UNECE and parties to LRTAP – called for the LRTAP POPs Protocol to be used as a model for the global agreement. Although the LRTAP POPs Protocol was an appropriate first step as a Protocol to a regional air pollution agreement, it may not provide an appropriate model for the global agreement, because it differs from a global agreement in many important respects.

In particular the LRTAP POPs Protocol is not an adequate model for a global agreement because it:

- deals with transmission of POPs through only one medium – air.
- is a regional agreement, within a region (Europe) comprised largely of developed countries. The intentionally produced POPs listed in the agreement are by-and-large no longer used or produced in the countries of the region, with notable exceptions discussed below.
- was not negotiated with developing country participation and does not adequately take into account their needs.
- fails to address compensation and liability for damage caused by POPs in developing countries.
- contains no provisions for technical and financial assistance for replacing POPs and POPs-dependent technologies.
- does not adequately address the issue of inventorying, containing and disposing of stockpiles.
- is influenced by a risk management approach to POPs that does not adequately reflect advances in our understanding of the health effects of POPs.

Dangers Posed by POPs

Persistent organic pollutants (POPs) are carbon-based chemical compounds and mixtures that share a number of common properties: As a general rule, POPs persist in the environment, are capable of long-range transport, bioaccumulate in human and animal tissue, and have significant impacts on human health and the environment, even at low concentrations.

POPs released to the environment can travel through air and water to regions far distant from their original source. In these distant regions, POPs can injure human health and/or the environment. Documented injuries in wildlife are especially prevalent in high predator species and include: (a) reproductive failure and population decline; (b) abnormally functioning thyroids and other hormone system dysfunctions; (c) feminization of males and masculinization of females; (d) compromised immune systems; (e) behavioral abnormalities; (f) tumors and cancers; and (g) gross birth defects.

Evidence has been gathered associating human exposure to specific POPs or classes of POPs with: (a) cancers and tumors at multiple sites; (b) neurobehavioral impairment including learning disorders, reduced performance on standard tests and changes in temperament; (c) immune system changes; (d) reproductive deficits and sex-linked disorders; (e) a shortened period of lactation in nursing mothers; and (f) diseases such as endometriosis, increased incidence of diabetes, and others.

Traditionally, toxic chemicals have been addressed through a risk management approach. Risk management assumes that small amounts are not harmful and that the crucial element is total exposure over time. Some POPs at extraordinarily low concentrations, however, can attach to intercellular receptor sites in the body, altering the structure or function of the endocrine system and triggering a cascade of potentially harmful effects. This effect is known as endocrine disruption. The critical issue in endocrine disruption is not so much the total amount of a POP an individual is exposed to, but the timing of that exposure. Thus, a very low exposure – in the parts per trillion range – at certain days in the development of a fetus in the womb can have potentially significant effects on the development of the fetus and infant. While exposure to a chemical over time can presumably be calculated with some degree of accuracy, exposure on any given day cannot. Since minute amounts of these substances can be sufficient to trigger endocrine disruption and because the degree of harm caused can depend on the timing of exposure, which cannot be accurately predicted, tradi-

tional risk management approaches that seek to limit exposure to “safe” levels are inadequate.

In people as in wildlife, injury caused by exposure to POPs is often expressed, not in the exposed adult population, but in the offspring generation. POPs in the mother’s body are transferred through the placenta to the developing fetus and through breast milk to the nursing infant, and can cause injury at vulnerable stages of development that may not be expressed until the infant reaches puberty or adulthood.

In the early decades of this century, POPs were virtually non-existent in the environment. Production and generation of POPs expanded dramatically following World War II. Today, ecosystems and ordinary food supplies in most regions of the world, especially fish, meat and dairy products, are contaminated by POPs. Both people and wildlife, everywhere in the world, carry body burdens of POPs at or near levels that can — and in some cases clearly do — cause injury to human health and to entire ecosystems.

People are generally exposed to POPs through their food supply, although workers and residents of communities near POPs sources can also be exposed through inhalation and direct (dermal) contact. POPs exposures are often highly pronounced in peoples whose diets include large amounts of wild food and especially big fish, marine mammals and other aquatic resources. Some of the best-documented, highly exposed populations are aboriginal peoples living in polar regions far distant from most POPs sources, such as the Inuit who live in the circumpolar region. But ordinary domesticated meat and milk products can also be significantly contaminated by POPs in tropical and temperate areas.

The International POPs Process

The LRTAP POPs Protocol is one piece of a larger global consensus-building process on the need to take action on POPs. The increasing concern over POPs, which began in the Great Lakes in the 1960s, led to international action in the 1990s. At the United Nations Conference on Environment and Development (the Earth Summit) in 1992, governments included measures for reducing and eliminating discharges of POPs into the marine environment in Agenda 21.

In May of 1995 the UNEP Governing Council called on several organizations, including the Intergovernmental Forum on Chemical Safety (IFCS) to

examine whether sufficient evidence existed to move forward on a global agreement on POPs. The Governing Council focussed on 12 of the worst POPs – DDT, dieldrin, aldrin, endrin, chlordane, hexachlorobenzene, mirex toxaphene, heptachlor, PCBs, dioxins and furans – the 12 prioritized POPs. In November 1995, the Washington Conference on Protection of the Marine Environment from Land-based Activities was held. The Global Programme of Action that emerged from that Conference, and agreed by consensus by over 100 governments, such governmental consensus was expressed on the need for a global, legally binding instrument for the reduction and elimination of the 12 prioritized POPs, identified by UNEP.

Following a process of assessing the health effects, transport, sources, risks and benefits of POPs, the IFCS Working Group on POPs concluded that there was sufficient scientific consensus on the harm caused by POPs to warrant immediate negotiation of a global treaty. In February 1997, the UNEP Governing Council met again. This time the Governing Council adopted a resolution asking UNEP to convene an intergovernmental negotiating committee (INC) to prepare a global, legally binding POPs instrument, beginning with the 12 prioritized POPs. The first meeting of the INC was held in June in Montreal. The UNEP Governing Council has called on the INC to complete its work by 2000.

The first INC meeting indicated how far the global consensus has come. UNEP Executive Director Klaus Töpfer in his opening remarks stressed that the ultimate goal of a global convention must be elimination not simply better management. He emphasized the need for a global POPs convention to promote clean production. Many governments agreed, also stressing an elimination approach in their statements to the INC.

International POPs Elimination Network

Civil society was an important component in moving forward the international consensus building process on POPs. In order to maintain a strong voice for civil society in the global POPs process a broad coalition of public interest non-governmental organizations formed the International POPs Elimination Network (IPEN) is a global network united in support of a common POPs Elimination Platform on POPs. The mission of IPEN, achieved through its participating organizations, is to work for the global elimination of POPs, on an expedited yet socially equitable basis. The IPEN POPs Elimination Platform includes several core premises relevant to evaluating the

LRTAP POPs Protocol as a model for a global agreement.

- An international agreement on POPs should have as its goal the phase out and elimination of all production, use and trade of POPs that are products or by-products of human activity and to identify, collect and destroy all stockpiles, not better management of their risks. POPs by definition are unmanageable risks.
- No country or region must be asked or required to take action under a POPs agreement that is substantively harmful to the health or to the well-being of its people or environment. Special efforts should be made to ensure that health and safety is not in any way compromised in the elimination of a POP (particularly in the area of infectious disease control, necessary food production and other significant social or health-related matters).
- A workable and transparent procedure and criteria based on environmental and health protection should be established for adding to the list of POPs covered by the treaty.
- POPs elimination should proceed through a transition regime that is rapid, orderly and just. Unnecessary delay should not be tolerated. Phase-out transitions should proceed through a planned and orderly regime that is designed to keep economic and social costs to a minimum and to avoid disruptions and dislocations.

As demonstrated below, the LRTAP POPs Protocol is at odds with several of these basic principles.

Objective of the LRTAP POPs Protocol

Because the LRTAP POPs Protocol is the first international agreement on POPs, it will naturally be referred to as a model for a global agreement. It is however not an appropriate model given the recognition by government and civil society of the need to take strong action to eliminate POPs. The limitations of the LRTAP POPs Protocol as a model agreement begin with its stated objective. Although the UNECE press release on the LRTAP POPs Protocol states that the ultimate objective is to eliminate any discharges, emissions and losses of POPs, the stated objective in the text of the Protocol is to “*control, reduce or eliminate discharges, emissions and losses of persistent organic pollutants.*” (art. 2). Given the growing scientific consensus that POPs pose an unmanageable risk, a global agreement should unequivocally state its goal as the elimination of POPs. Moreover, the Protocol’s objective, as written, focuses on control of

emissions, discharges and losses, it does not emphasize pollution prevention and clean production. Ultimately the least cost solution to eliminate discharge and emissions of POPs will be to not produce POPs in the first place.

As will be demonstrated below, the terms of the Protocol are consistent with its “*control, reduce or eliminate*” objective; it embodies both a risk management and end-of-pipe approach to the POPs problem. Hopefully, the more progressive position expressed in the UNECE press release and Klaus Töpfer’s speech at the INC reflects the growing consensus on the POPs elimination goal. Such a goal should be clearly articulated in a global agreement.

Chemicals Regulated under the LRTAP POPs Protocol

The LRTAP POPs Protocol divides the chemicals it regulates into three categories: those scheduled for elimination (annex I), those scheduled for restrictions on use (annex II), and those subject to emission reductions (annex III). The substances scheduled for elimination are aldrin, chlordane, chlordecone, DDT, dieldrin, endrin, heptachlor, hexabromobiphenyl, hexachlorobenzene (HCB), mirex, PCBs and toxaphene. Those scheduled for restrictions on use are DDT, hexachlorocyclohexane (HCH), which includes lindane, and PCBs. Note that DDT and PCBs appear on both annexes I and II. The substances subject to emissions reductions are unwanted by-products of industrial production – polycyclic aromatic hydrocarbons (PAHs), dioxins and furans (PCDD/F), and HCB. HCB is both an intentionally produced pesticide and an unwanted chemical by-product, therefore it appears on both annexes I and III. The LRTAP POPs Protocol covers 16 substances, while the global negotiation covers only 12. The additional substances covered in LRTAP are PAHs, chlordecone, HCH, and hexabromobiphenyl.

Basic Obligations: Elimination, Destruction and Disposal

Parties must eliminate production and use of the chemicals listed in annex I, subject to certain exceptions. Destruction and disposal of annex I substances are to be carried out in an environmentally sound manner, taking into account global agreements on the management and disposal of hazardous wastes, including the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (“Basel Convention”). Parties are also to “endeavor” to carry out disposal domestically and

to “ensure” that any transboundary movement of substances in annex I is environmentally sound. For substances in annexes I, II and III the parties should develop strategies for identifying articles and wastes containing those substance and ensure that they are destroyed or disposed of in an environmentally sound manner, consistent with the Basel Convention. For annex II substances Parties must restrict uses to those described in the annex. For annex III substances, the Parties are to apply best available techniques (BAT) to new stationary sources and, in some cases, to existing stationary sources. Parties are also obliged to take effective measures to control emissions of annex III substances from mobile sources. Exceptions to the elimination obligation are discussed in more detail below.

Exceptions to the Elimination Obligation: Permitted Production & Uses

Exceptions to the elimination obligation are both built into annex I and contained in annex II in the form of restrictions on use. In annex I, exceptions to the elimination obligation apply to PCBs, DDT, heptachlor and hexachlorobenzene. As discussed below, some of these exceptions relate to permitted *uses* of existing stockpiles and some relate to permitted *production* of these substances. Annex II provides for restrictions on the uses of DDT, PCBs and HCH. In the case of DDT and PCBs these exceptions were carved out because, late in the negotiation process, Russia disclosed that it was still making and using both substances. As demonstrated below, the listing of DDT and PCBs on both annexes I and II is unnecessary and confusing. The existence of annex II – permitting continued use of some POPs, albeit restricted uses – demonstrates that despite what the UNECE might say about the objectives of the POPs protocol in its press release, the provisions of the Protocol reflect a “reduce or eliminate” approach to POPs. Given the global consensus on the need to eliminate POPs a global agreement must not follow the LRTAP model on this point.

PCBs. Under annex I, countries with economies in transition (CETs) have until 31 December 2005 to eliminate production of PCBs. PCBs produced until that time may remain in use. Under annex II, Parties are also to “make determined efforts designed to lead to” elimination of the use of identifiable PCBs in equipment containing a certain minimum volume of PCBs no later than 31 December 2010 or, for countries with economies in transition, 2015. Such liquid PCBs and any other liquid PCBs containing more than 0.005% PCBs not in equipment should be de-

stroyed by 31 December 2015 and 2020, for CETs. The equipment from which the PCBs are taken is to be decontaminated in an environmentally sound manner.

DDT. Under annex I, production of DDT is permitted until one year after the Parties have reached consensus that “suitable alternatives to DDT are available for public health protection from disease such as malaria and encephalitis.” Parties are to review the availability and feasibility of alternatives to DDT for these purposes within one year of the entry into force of the Protocol and “periodically” thereafter. Under annex II, use of DDT is allowed for malaria and encephalitis control, but only as a component of an integrated pest management strategy and only to the extent necessary. DDT use is also permitted as a chemical intermediary to produce dicofol, a pesticide. Although the DDT exception, like the PCB exception, was supposedly written into the Protocol because of the needs of CETs, the DDT exemption is not limited specifically to CETs.

Heptachlor. Annex I permits use of heptachlor for control of fire ants in closed industrial electrical junction boxes. This use will be reevaluated within two years of the date of entry into force of the Protocol. It may not be produced, however.

HCB. Annex I permits production and use of HCB by CETs for a limited purpose as specified in a statement deposited upon signature or accession. HCB has been used as a fungicide for seed grain. Emissions of HCB, when it is emitted as an unwanted by-product are also regulated in annex III (see next section).

HCH/Lindane. Limited use of HCH, including lindane, is permitted under annex II. Technical HCH, a variant of HCH, may be used as an intermediate in chemical manufacturing and lindane may be used for certain purposes, including seed treatment, soil applications, treatment of lumber and non-aerial application to seedlings, lawns and nursery stock. These uses of lindane are to be reassessed within two years of the entry into force of the Protocol. Annex II does not provide for reconsideration of the uses of technical HCH as a chemical intermediary.

The very existence of annex II undermines the POPs elimination goal. It is unnecessary and reflects the limited, risk-management-oriented objective of the Protocol. The concerns addressed by annex II could just as easily be dealt with in annex I. This would be consistent with an elimination objective – the appropriate objective of a global agreement – and

still address legitimate public health concerns, such as controlling disease vectors. The Protocol in article I draws a distinction between those substances parties are obliged to eliminate (art 3.1(a) & (b)), listed in annex I, and those substances use of which parties must restrict (art. 3.1(c)), listed in annex II. Although the parties are to reassess the restricted uses of all substances currently listed on annex II, additional substances could be listed without such provisions. The obligation to reassess permitted uses is on a substance-specific basis in the annex. To be consistent with the elimination objective – the Protocol should contain a general obligation to regularly reassess the permitted uses of all restricted use substances as part of a step-wise process to move substances out of production.

If eventual elimination of all these substances is the ultimate goal of the Protocol (as the UNECE Press Release states and as we hope it will be in a global agreement), then annex II is unnecessary. Annex I provides for limited exceptions to the elimination of production and use as a way of moving toward elimination. Thus, annex I contains a heptachlor *use* exception and HCB *use and production* exceptions. Inexplicably however, allowable DDT and PCB *production* is dealt with in annex I and allowable DDT and PCB *use* is regulated in annex II. PCB and DDT uses could be dealt with in annex I as with heptachlor and HCB and need not be shunted into a separate annex, whose entire purpose is to regulate use. Addressing DDT and PCB uses as exceptions in annex I would clearly indicate that they are slated for eventual elimination. The placement of HCH only in annex II means that it is not (or not yet) slated for elimination at all. Although uses of lindane are to be reconsidered within two years of the entry into force of the Protocol, use of technical HCH as a chemical intermediate is not. In short, the only possible purpose for the existence of annex II is to allow an avenue for dealing with future POPs under a “risk management” approach, rather than elimination.

Exceptions to the Elimination Obligation: Regulation of Emissions

The obligations with respect to annex III substances – PAHs, dioxins, furans and HCB – are for reduction of emissions through application of best available techniques (BAT) to new stationary sources, and, where technically and economically feasible, to existing stationary sources. Parties are also obliged to apply “effective measures” to emissions from mobile sources; recommendations for addressing mobile source emissions are contained in annex VII. The Protocol and its annexes do not re-

quire changes in production technologies or limit or ban POPs-producing technologies, such as waste incineration, as a means of eliminating these emissions. Parties are to reduce their total annual emissions of annex III substances from either 1990 levels, or a level between 1985 and 1995 specified by the Party when it ratifies the Protocol. Annex IV lays out limit values for dioxins and furans from major stationary sources. The BAT is defined according to major stationary source category as identified in annex V.

Annex V lays out categories (*e.g.*, waste incineration, thermal metallurgical processes and residential combustion) of stationary sources by pollutant. It also provides guidance on identifying BAT to meet the reduction obligations. Although annex V, under the heading “general approaches to controlling emissions of POPs” mentions such approaches as “replacement of feed materials which are POPs” and “process changes such as closed systems,” the detailed portions of the annex that discuss BAT by source type are primarily end-of-pipe solutions. Thus, the Protocol does not adequately promote clean production technologies or pollution prevention.

The Protocol’s treatment of POPs by-product emissions are problematic and inadequate for a variety of reasons. First, it is clearly governed by a risk-management approach to POPs. The Protocol apparently views emissions reductions as the final means of dealing with POPs by-products. This approach assumes POPs are not harmful in small amounts, which does not comport with the emerging science on endocrine disruption. Given the low levels of POPs that can cause harm and keeping mind the precautionary principle, emissions limitations are only acceptable as a first step toward elimination.

Second, the Protocol relies on a traditional BAT approach. In other words, the Protocol asks how, once we have POPs emissions, can we clean them, rather than asking why we have POPs emissions in the first place. The appropriate focus of a global agreement is on pollution prevention and clean technology, which will ultimately eliminate POPs discharges altogether, making end-of-pipe fixes unnecessary. Given the growing global consensus on the need to take action on POPs on a global scale, a more progressive approach to POPs by-products is needed in the global agreement.

Exemptions for Emergencies, Research and “Minor” Uses

In addition to the permitted uses and production, discussed above, Parties may grant exemptions to their annex I and II obligations for purposes of research, to manage a public health emergency, or for minor applications. Article 4 details the parameters for granting these exemptions. Parties must notify the secretariat within 90 days of granting an exemption. This notice is available to all Parties, but the Protocol does not specify whether the notice would be made publicly available.

The article 4 exceptions present several problems. First, the Parties may grant exemptions to annexes I and II to manage a public health emergency. Presumably this is addressed to the uses of DDT to manage malaria and encephalitis vectors. Such public health exceptions are already written into the annexes themselves. Presumably if substances are added to the annexes that provide important public health benefits, exemptions can be included in the annexes. Writing the exemption in twice, and in article 4 more broadly, seems unnecessary. Moreover the term “public health emergency” used in article 4 is not defined or circumscribed in any way.

The second problem is that article 4 grants exemptions for minor applications. Since harm to health and the environment can occur at extremely low levels, no release of these substances should be considered “minor.”

Criteria and Procedure for Adding Chemicals

Article 14.6 of the Protocol addresses amendments to add substances to annexes I, II or III. Proposals for additions must come from a Party and contain the information specified in Executive Body decision 1998/2. The basic requirements for adding a substance to annexes I, II or III, laid out in 1998/2, is submission of a “risk profile” based on four criteria: (a) potential for long-range transboundary atmospheric transport, (b) toxicity, (c) persistence, and (d) bio-accumulation. Following submission of the risk profile, the parties meeting as the Executive Body will determine on a consensus basis (*i.e.* any party can veto) to go forward with technical reviews. The term risk profile is defined in 1998/2 as a “comprehensive review of the scientific information related to the determination of general human health and environmental risks associated with the uses and releases of a substance.” The Protocol provides that decisions to add a substance be made by a consensus of the parties at the meetings of the Executive Body and take effect 60 days after their adoption.

The use of consensus as the basis for adding chemicals to the annexes politicizes a decision that ought to be based on objective scientific criteria and the precautionary principle. The procedure and criteria laid out in 1998/2 are scientific. Requiring that the parties adopt the amendment by consensus in essence gives any Party to the Protocol a veto over any chemical to be added to the list. Even so, the amendment to the annex (i.e. the addition of a new chemical) is only valid for those countries that approve the amendment. This alone should be adequate protection for a country that does not want to ban a particular substance, without also requiring that the decision to list the substance be adopted by consensus. A scientific assessment that a particular chemical meets the criteria of a POP should be sufficient to require its listing.

Reporting, Data Collection and Information Exchange

The Protocol contains a variety of provisions on reporting, data collection and information exchange. Such provisions can be useful in establishing baseline data and further developing scientific understanding of the effects of POPs and their transport in the global environment. Parties must also develop and maintain emissions inventories for annex III substances – dioxins, furans, PAHs and hexachlorobenzene – and collect available information on production and sale of the other substances covered by the Protocol (art. 3.8).

Article 5 requires parties to facilitate exchange of information and technology to reduce generation and emissions of POPs and to develop cost effective alternatives. This is to be achieved through promotion of contacts and cooperation and exchange of, and access to, information. Parties are to compile lists of their authorities active in areas relevant to POPs in international fora and exchange information on those activities.

Article 9 requires Parties to periodically report to the Executive Body on measures they have taken to implement the convention and on emissions of annex III substances for the relevant base year (parties can specify a base year between 1985 and 1995 when they ratify the Protocol). In addition, for Parties who are within the EMEP, they must report on their emissions. The Executive Body may request parties outside the EMEP to submit the same information.

Historically, reporting, monitoring and data collection have been important within the LRTAP for developing greater information on pollution effects

and transport and in developing consensus – both scientific and political – to take progressively more stringent action with regard to a pollutant. The LRTAP could go further in terms of providing for facility level reporting, or instituting a UNECE-wide pollutant release and transfer register that includes POPs, similar to the toxic release inventory in the United States and several other UNECE countries.

Technology Transfer

The Protocol contains no real provisions on technology transfer, funding, or technical assistance to CETs to facilitate the phase out of either DDT or PCBs. What does exist relates primarily to promoting contact between scientists and exchange of information on alternatives and activities in various international fora. The technology transfer provision is simply part of the information sharing provision – it contains no financial component. It is therefore inadequate to address the needs of technology transfer even within the UNECE region – specifically to CETs, who, for example, need technological and financial assistance in replacing PCB-dependent technology. A global agreement will have to deal comprehensively with the issue of technology transfer.

Implementation and Compliance

Implementation is to be achieved through public awareness, development of strategies and policies and encouraging research, monitoring and cooperation.

Under article 6, Parties are supposed to promote public awareness by providing information on POPs to the general public including direct users. The article contains an illustrative list of information to be disseminated, including information on labeling, risks and hazards, risk reduction, alternatives, as well as information that encourages the elimination of POPs or reduction of their uses, including integrated pest management. The public awareness provisions are subject to national laws, regulations and practices, and thus primarily hortatory in nature.

Each Party under article 7 is required to develop strategies, policies and programmes to implement the Protocol within six months of the entry into force of the Protocol vis-à-vis that Party. These strategies, policies and programmes are to encourage sound management techniques, and best environmental practices. The Protocol does not require that Parties provide such strategies, policies and programmes to the Executive Body. Parties are to report periodically to the Executive Body on the measures it has taken to

implement the Protocol under article 9, however. Parties may take measures more stringent than those required by the Protocol.

Finally, article 8 obliges parties to encourage research, development, monitoring and cooperation on emissions, BAT, pollutant pathways and inventories, effects on human health and the environment, methodologies for incorporating socio-economic factors in the evaluation of alternative control strategies, and methods for estimating national emissions.

Collaborative research and monitoring, like information exchange, has historically been important within the LRTAP in gathering data and developing consensus for further action. These provisions may well be effective within the UNECE where there is a 15-year history of collaborating within the LRTAP framework. Such collaboration and consensus building measures are extremely important, both at a regional and global level. As an implementation measure, they may not be adequate in a global agreement, where there is a less well established and smoothly functioning apparatus and a greater diversity of needs and national circumstances than in the UNECE region.

Conclusion

The LRTAP POPs Protocol is an important early step in taking global action on POPs. As the first legally binding, multi-lateral agreement to deal with POPs it is a useful document, both because it provides momentum moving into the global negotiations and because negotiation of this instrument has helped to highlight some of the issues and problem areas. An analysis of the Protocol also indicates where a global agreement can improve on the Protocol. Based on the global consensus, and particularly the IPEN platform, an effective global agreement should

- Establish that its ultimate objective is the elimination of these substance;
- Base the agreement and its objective on the precautionary principle;
- Address not only production and use, but also trade in POPs;
- Include explicit provisions on clean production
- Contain adequate provisions for technological and financial assistance;
- Provide for a better procedure for adding additional POPs to the list of controlled POPs – a procedure based clearly on objective scientific criteria and not on the political process;
- Address the issue of stockpiles, based on the polluter pays principle;

- Take into account the needs of developing countries and better address the needs of CETs; and
- Develop a multilateral and cooperative implementation mechanism that assists developing countries and CETs to comply with these obligations, perhaps gaining from the experience with similar mechanisms in the Montreal Protocol and the Framework Convention on Climate Change.

Sources

International POPs Elimination Network, Provisional Background Statement and POPs Elimination Platform (http://www.psr.org/IPEN_Platform.htm).

Draft Protocol to the Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants, UN Doc. EB.AIR/1998/2 (31 March 1998).

Report of the Intergovernmental Negotiating Committee for an International Legally Binding Instrument for Implementing International Action on Certain Persistent Organic Pollutants on the Work of its First Session, UN Doc. UNEP/POPS/INC.1/7 (3 July 1998).

Negotiators Reach Agreement on Heavy Metals and Persistent Organic Pollutants, Press Release ECE/ENV/98/4 (17 February 1998).

Executive Body of the Convention on Long-Range Transboundary Air Pollution – Report of the Special Session, UN Doc. ECE/EB.AIR/55 (9 April 1998).

Executive Body for the Convention on Long-Range Transboundary Air Pollution, Working Group on Strategies, Report of the Twenty Fifth Session. UN Doc. EB.AIR/WG.5/52 (19 February 1998) (contains the text of EB Decision 1998/2).

Thomas W. Lippman, *Russian PCBs Complicate Toxics Treaty*, Washington Post, May 26, 1998, page A13.

Theo Colburn, Dianne Dumanoski, and John Peterson Myers, *Our Stolen Future* (1996). PSR Monitor, Volume 13, No. 1 (February 1998).

POPs for Dummies, The Greenpeace Guide to Persistent Organic Pollutants (1998).

Agenda 21, Annex II to the Report of the UN Conference on Environment and Development, UN Doc. A/Conf.151/26 (12 August 1992).

Additional information

About IPEN: http://www.psr.org/IPEN_Homepage.htm

About the global POPs process:
<http://irptc.unep.ch/pops>

DRAFT

About LRTAP (the text of the Protocol and the Press Release can be downloaded from this site):
http://www.unece.org/env/env_eb.htm