# **Appendix B:** General Information

M.J. Peterson Version 1, June 2010

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# **Diagram of Prior Informed Consent Process**



- 1. Government of exporting country notifies clearinghouse of "control actions" (ban or severe restrictions on sale of chemical or pesticide) imposed for health or environmental reasons.
- 2. Clearinghouse circulates notification of control actions to Designated National Authorities (DNAs) of governments of importing states.
- 3. Importing governments indicate within 90 days whether they will accept imports of the chemical subject to control action. (No response = tacit statement no import restrictions will be adopted.)
- 4. Clearinghouse sends importing government responses to DNAs of exporting countries.
- 5. Exporting country governments inform chemical supplier of any restrictions and enforces them through its own trade regulations.
- 6. (If permitted) chemical supplier exports controlled chemical to foreign buyer.

# The Impact of Existing International Agreements on the Form of New Ones M.J. Peterson

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Transnational and intergovernmental discussions of how to regulate cross-border trade in hazardous substances, such as pesticides, products containing lead, and certain industrial chemicals, and hazardous wastes reflected and strengthened a change in the way global multilateral treaties intended to create harmonized regulation of a particular form of private activity were formulated.

Before the 1970s, the prevailing model of global regulatory harmonization assumed parallel action by national governments. That is, the global agreement would establish a body or organization to coordinate standards-setting but leave actual adoption and implementation of regulations to individual states. The WHO-FAO Codex Alimentarius Commission is a typical example. The Commission is a body of experts in food safety, one named by each member state and typically drawn from the government ministry or other agency responsible for food safety. It develops recommendations on food labeling, hygienic food handling, food additives, pesticide residues, and management of government food import and export inspection. Only in areas where regulations applied to use of physical objects connected to each other directly or through radio waves did the international agreements specify obligations to adopt the global standards into national laws or regulations. Thus, the International Telecommunications Union and the International Railway Union made provision for members to adopt agreed standards into national law as written in the relevant international agreement.

When transnational efforts to increase responsible handling of hazardous and toxic substances and wastes arose in the 1970s, there were few precedents for active administrative cooperation between agencies of different national governments or for provision of problem-specific capacity-building assistance to governments whose bureaucracies currently lacked sufficient knowledge and experience to cope with complex matters requiring considerable scientific or technical expertise. The institutional template of a multilateral agreement in the form of framework treaty plus annexes was only beginning to emerge. In this form, the framework treaty identifies the problem to be addressed, the goals to be pursued, and broad procedures for securing information and developing more detailed rules. The detailed rules are then places in annexes or protocols that can be amended fairly easily as new information or better understanding of the problem emerges. Annexes or protocols might define specific targets to be attained, such as emission reductions or levels of ambient air quality, or particular rules of conduct for governments and others, such as bans on making or using particular chemicals, replacement of current technologies or substances with less-polluting substitutes, or provision of administrative training to officials in developing countries.

Contemporary framework treaty-protocol arrangements also provide for ongoing administrative cooperation through transgovernmental networks connecting counterpart agencies managed by an international secretariat. One of the first such agreements was the International Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which took effect in 1975.

CITES created this structure:



The Conference of the Parties (CoP), consisting of representatives from each state participating in CITES, meets every 2-3 years to review implementation and decide whether the annexes (formally called Appendices) that list species under protection need to be revised.

The Standing Committee consists of representatives of a smaller number of participating states that provides ongoing policy guidance and coordinates the work of committees and working groups, and drafts resolutions for discussion at the CoP.

The Animals and Plants Committees are experts drawn from participating states and elected by the CoP to provide advice to the Secretariat and the CoP on the appropriateness of listings, review the status of species, particularly those subject to significant international trade, and ensure the nomenclature used in the Appendices is scientifically correct.

The Secretariat is located in Geneva and run by the UN Environmental Programme. It distributes information to the parties, arranges meetings, provides informational exchange among the participating states, and makes suggestions about improving implementation.<sup>1</sup>

The 1979 Convention on Long-Range Transboundary Air Pollution (LRTAP) and the 1985 Vienna Convention on the Protection of the Stratospheric Ozone Layer (Ozone Treaty) also follow the framework treaty-protocol form. The Ozone Treaty structure is a bit more elaborate because of the larger number of advisory committees:<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Information on CITES from http://www.cites.org/eng/disc/org.shtml (accessed 17 Aug 2010).

<sup>&</sup>lt;sup>2</sup> Information on Ozone Treaty from http://ozone.unep.org/ (accessed 17 Aug. 2010).



As in CITES, the Conference of the Parties (Convention) and Meeting of the Parties (Protocol) consist of representatives of all participating states that make the major decisions, including proposals to amend the Convention or the Protocol.

The Convention's Meetings of Ozone Research Managers provides a forum where the herd of national programs for monitoring ozone levels and emissions of ozone-depleting substances coordinate efforts and discuss best practices.

The three Protocol Advisory Panels are expert bodies with varying membership depending on the area of activity. The Technology and Economic Assessment Panel (TEAP) has members drawn from government, research institutes, chemical companies making ozone-depleting substances, and other companies making equipment that uses them. The Scientific Assessment Panel (SAP) includes atmospheric scientists from government and academia; the Environmental Effects Assessment Panel (EEAP) includes photobiologists and photochemists generally from academia and research institutes.

TEAP assesses the availability of substitutes for ozone-depleting substances and the economic implications for equipment makers and consumers of shifting to them, and advises the MOP on whether it should grant a requested exception for "essential uses" or "critical uses."

The SAP reviews research relating to the condition of the stratospheric ozone layer and whether it is being weakened by any substances not yet included within the controls.

The EEAP examines the effect of increased UV radiation on human health, animals, plants, biogeochemistry, air quality and materials.

Both CITES and the Ozone Layer Convention adopted a framework treaty-protocol form because at the time they were negotiated, the full dimensions of the problem being addressed were incompletely

understood. Governments could agree there was a problem, but needed to secure more information before committing to particular regulatory measures they would have to enforce on companies, groups, and individuals within their borders.

As its name suggests, the UN Framework Convention on Climate Change also took the framework treatyprotocol form. During negotiation of the Basel Convention on Control of Transboundary Movement of Hazardous Wastes and Their Disposal to developing countries, Mostafa Tolba, head of UNEP, rejected proposals to use the framework treaty-protocol form and included the obligations in the treaty itself, with details in Annexes.<sup>3</sup> However, it has come to resemble framework treaty-protocol regimes because the Conference of the Parties needed expert advice, and disagreements about how to handle liability issues persisted beyond formulation of a separate protocol on that subject in 1999.

Overall, the differences between framework treaty-protocol agreements and multilateral treaties with annexes have become less discernable over the years. Each form can be used to address questions where incomplete information or changing conditions suggest a need to combine a set of stable basic rules with a more changeable set of detailed regulations.

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<sup>&</sup>lt;sup>3</sup> Mostafa K. Tolba with Iwona Rummel-Bulska. 1998. *Global Environmental Diplomacy; Negotiating Environmental Agreements for the World, 1973-1992* (Cambridge, MA: MIT Press), 101

## **Twelve Principles of Green Chemistry**

[P.T. Anastas and J.C. Warner, *Green Chemistry: Theory and Practice* (New York: Oxford University Press: New York, 1998), p.30.]

#### 1. Prevention

It is better to prevent waste than to treat or clean up waste after it has been created.

#### 2. Atom Economy

Synthetic methods should be designed to maximize the incorporation of all materials used in the process into the final product.

#### 3. Less Hazardous Chemical Syntheses

Wherever practicable, synthetic methods should be designed to use and generate substances that possess little or no toxicity to human health and the environment.

#### 4. Designing Safer Chemicals

Chemical products should be designed to effect their desired function while minimizing their toxicity.

#### 5. Safer Solvents and Auxiliaries

The use of auxiliary substances (e.g., solvents, separation agents, etc.) should be made unnecessary wherever possible and innocuous when used.

#### 6. Design for Energy Efficiency

Energy requirements of chemical processes should be recognized for their environmental and economic impacts and should be minimized. If possible, synthetic methods should be conducted at ambient temperature and pressure.

#### 7. Use of Renewable Feedstocks

A raw material or feedstock should be renewable rather than depleting whenever technically and economically practicable.

#### 8. Reduce Derivatives

Unnecessary derivatization (use of blocking groups, protection/deprotection, temporary modification of physical/chemical processes) should be minimized or avoided if possible, because such steps require additional reagents and can generate waste.

## 9. Catalysis

Catalytic reagents (as selective as possible) are superior to stoichiometric reagents.

#### 10. Design for Degradation

Chemical products should be designed so that at the end of their function they break down into innocuous degradation products and do not persist in the environment.

#### 11. Real-time analysis for Pollution Prevention

Analytical methodologies need to be further developed to allow for real-time, in-process monitoring and control prior to the formation of hazardous substances.

12. Inherently Safer Chemistry for Accident Prevention

Substances and the form of a substance used in a chemical process should be chosen to minimize the potential for chemical accidents, including releases, explosions, and fires.

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