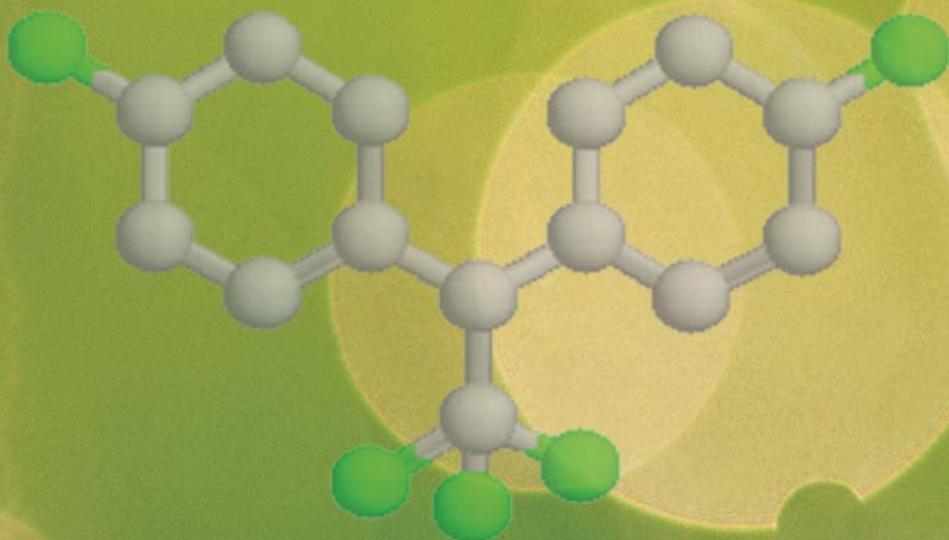


Enhancing Chemical Management
for Improved Productivity,
Market Access and Environment



POPS

**PERSISTENT
ORGANIC
POLLUTANTS**



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
economy environment employment

Great efforts have been made since the early 1960s to enhance chemical management and safety issues. Various Conventions have been adopted for this purpose: the Stockholm Convention is the most recent of them.



Enterprises that improve their performance in chemical management will see benefits in productivity, market access and competitiveness. Industries that are unwilling to address their obligation to reduce POPs releases may find themselves marginalized.

THE STOCKHOLM CONVENTION

The Stockholm Convention, held in May 2001, focuses on eliminating or reducing releases of 12 POPs, the so-called “Dirty Dozen”. These 12 chemicals include aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex, and toxaphene used principally as pesticides, two industrial chemicals polychlorinated biphenyls and hexachlorobenzene used in industry but also produced unintentionally together with dioxins and furans. Over 150 countries signed the Convention, which will enter into force shortly after the ratification by the fiftieth country, which is expected in 2004. The Global Environmental Facility (GEF) is the designated interim financial mechanism for the Stockholm Convention.

POPs — Persistent Organic Pollutants

Persistent organic pollutants (POPs) are organo-chlorine compounds of concern to the international community because they are:

- Highly toxic to humans and the environment
- Persistent in the environment, resisting biodegradation
- Taken up and bioaccumulated in terrestrial and aquatic ecosystems
- Capable of long-range transboundary atmospheric transport and deposition

In nature these substances affect plant and animal development and growth. They can cause reduced reproductive success, birth defects, behavioural changes and death. They are suspected human carcinogens and disrupt the immune and endocrine systems.

Sources

Since the first half of the last century, POPs have been **intentionally** developed and used in a wide range of products (e.g. pesticides, insecticides, dielectric and hydraulic fluids in industrial machinery, capacitors and transformers).

They are **unintentionally** generated in a wide range of processes involving combustion. The following industrial processes are amongst those believed to be likely sources:

- Waste incinerators including cement kilns firing hazardous waste
- Production of pulp using elemental chlorine or chemicals generating chlorine during bleaching
- Thermal processes in the metallurgical industry
- Industrial boilers and furnaces using fossil fuels, wood and other biomass fuels
- Chemical manufacture (especially production of chlorophenols and chloranil)
- Textile and leather dyeing (with chloranil) and finishing (with alkali extraction)
- Waste oil refining

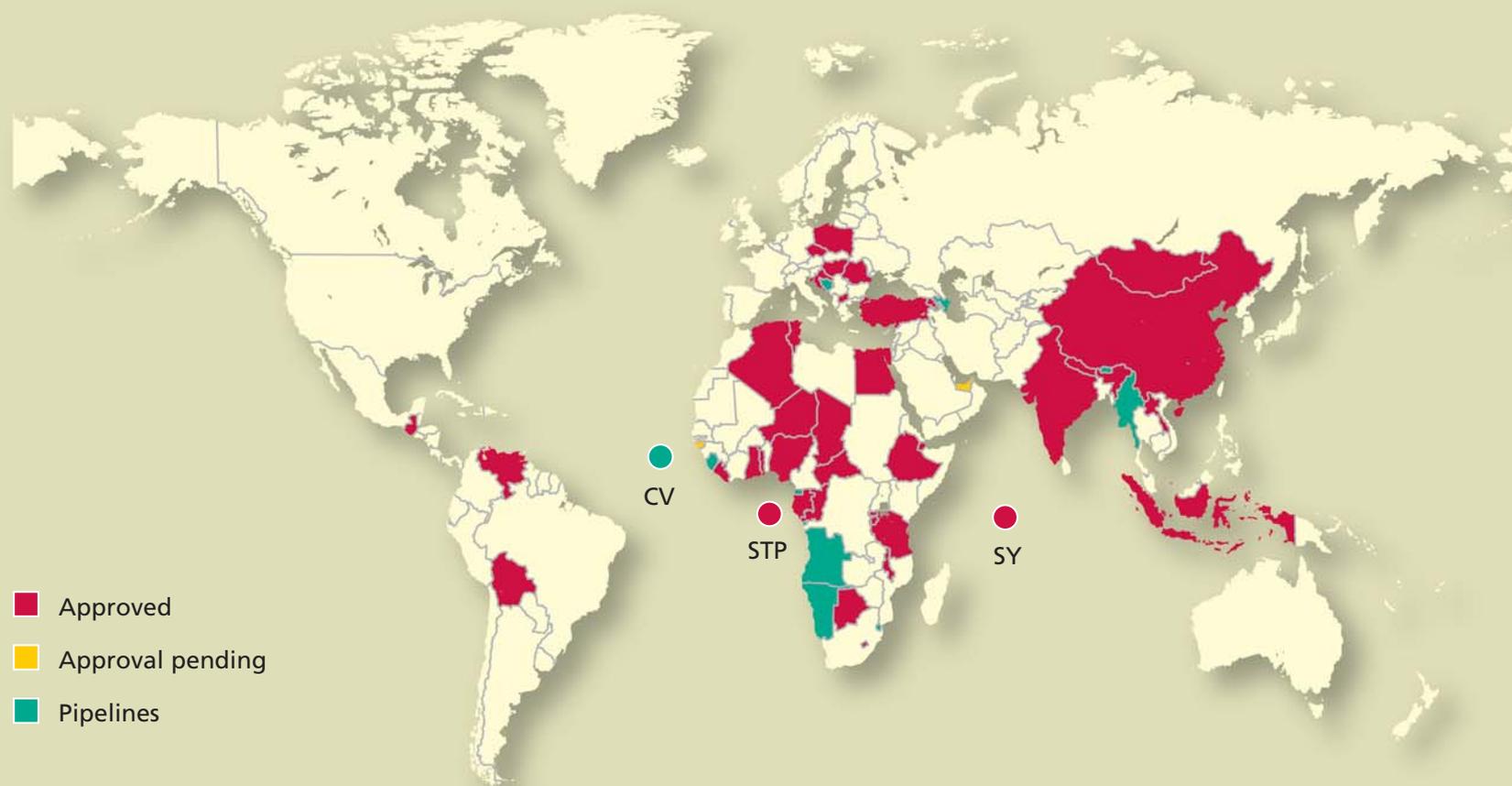
ADDRESSING THE PROBLEM

In 1995 UNIDO along with the other members of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) was invited to work with the International Programme on Chemical Safety (IPCS), the Intergovernmental Forum on Chemical Safety (IFCS) and an ad hoc working group, to initiate an assessment of POPs risks. The results of this prompted the formation of an Intergovernmental Negotiating Committee (INC) in 1998. The INC delivered the convention text for signature to the Conference of Plenipotentiaries held in Stockholm 2001. UNIDO's work to reduce POPs emissions from industry began in the 1980's and its comparative advantage in this sector was recognized by the GEF in granting UNIDO "executing agency with expanded opportunities" status in May 2000.

UNIDO and Chemicals

Chemicals and chemicals management have been important topics for UNIDO's technical cooperation since the organization was formed in 1967. UNIDO provided broad sectoral support to developing and transition economy countries seeking to build indigenous chemicals industry capacity. After the Bhopal accident in 1984 the focus of technical cooperation activities shifted towards chemicals safety and occupational safety elements were included in all programmes, e.g. a Regional Network on Pesticides in Asia and the Pacific (RENPAAP) was established by UNIDO in the 1980s.

NATIONAL IMPLEMENTATION PLANS – UNIDO ASSISTANCE PROJECTS



HOW UNIDO ASSISTS — NATIONAL IMPLEMENTATION PLANS

Since the Stockholm Convention opened for signature in 2001, UNIDO has become one of the principal agencies assisting developing and transition economy countries to meet their obligations under the Convention. UNIDO's actions have centered on encouraging them to become parties to the Convention and assisting them to prepare National Implementation Plans (NIPs). Over 50 Member States have requested our assistance and UNIDO has, to date, won GEF approval for proposals for about 40 countries. In Africa, UNIDO's principal priority region, 30 countries have requested our assistance.



National Implementation Plans

UNIDO is assisting developing and transition economy countries to prepare the NIPs. Our work focuses on the following aspects:

- Raising awareness within the country
- Enhancing information management
- Building a national coordination mechanism for the implementation of the Convention
- Involving key stakeholders in the country
- Evaluating the POPs situation
- Establishing POPs inventories
- Assessing chemicals management infrastructure; legal frameworks; monitoring systems; testing facilities
- Priority setting to address the most urgent problems
- Action planning to meet the Convention obligations

HOW UNIDO ASSISTS — CAPACITY-BUILDING AND DEMONSTRATION PROJECTS

Capacity-building is required both within government and civil society in order to provide appropriate approaches to many aspects of the management of POPs. UNIDO is developing initiatives that promote capacity-building for Governments, sectoral institutions and wider stakeholders.

One of these initiatives is a GEF funded global project to strengthen the abilities of non-governmental organizations (NGOs) to raise awareness of POPs issues at community level. It recognizes the important role that NGOs can play in promoting the protection of health and the environment from POPs chemicals and wastes.

An important element of UNIDO's work is to promote the take up of best available techniques (BAT) and best environmental practices (BEP) in industry through, for example, **demonstration projects** to test the local feasibility of innovative technologies and methodologies.

An example is the UNIDO-executed non-combustion technology programme funded by the GEF. This programme will demonstrate commercially available technologies that destroy POPs without incineration. The demonstration will evaluate and seek to overcome potential technical, economic, regulatory and social barriers to the wider adoption of non-combustion POPs disposal.



**Best Available Techniques (BAT)**

are the most effective and advanced stages in the development of activities and their methods of operation in order to reduce releases of POPs and their impact on the environment

Best Environmental Practices (BEP)

are applications of the most appropriate combination of environmental control measures and strategies

AFRICA STOCKPILE PROGRAMME

At least 50,000 tons of obsolete pesticides, as well as tens of thousands of tons of contaminated soil, have accumulated in Africa. The Africa Stockpile Programme (ASP), approved by the GEF in 2002, seeks to eliminate all obsolete POPs pesticides from Africa and to prevent their accumulation in the future. The ASP will take advantage of inventory data collected for the National Implementation Plans and of technology options identified in the UNIDO non-combustion technology programme.



FUTURE OBJECTIVES

UNIDO's long experience with industries and chemicals management in developing and transition economy countries equips us with unique advantages to assist Governments to work towards the Millennium Development Goals (MDGs) by:

- Operating collectively in the development of Multilateral Environmental Agreements (MEAs)
- Implementing those agreements to improve economic and environmental performance and sustainability

International concern now focuses on:

- Linking the **Stockholm Convention** with other MEAs such as the **Rotterdam** (chemicals trade) and the **Basel** (hazardous wastes) **Conventions**
- Providing industry and economy perspectives in developing new MEAs such as the **Strategic Approach to International Chemicals Management (SAICM)**



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