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# Towards 2020: **Making Chemicals Safer**

The EU's contribution to the Strategic Approach to International Chemicals Management



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# INTRODUCTION

*"Achieve by 2020 that chemicals are used and produced in ways that lead to the minimisation of significant adverse effects on human health and the environment."*

**(World Summit on Sustainable Development, Johannesburg, 2002)**



We live in a society that is dependent on chemicals. From the production of the food we eat to health, personal care or household products, we come into contact with chemicals on a daily basis.

While many of these contribute to our comfort, some chemicals can severely damage our health or our environment and in particular our immune, nervous or reproductive systems. Others could be dangerous if not used properly.

A growing global awareness of the potential harm to human health and the environment caused by exposure to chemicals, led the World Summit on Sustainable Development (WSSD), held in Johannesburg in 2002, to make a global political commitment to sound chemicals management by 2020. International efforts to realise the goal resulted in the adoption of the Strategic Approach to International Chemicals Management (SAICM), by the United Nations Environment Programme in February 2006.

The 2020 goal was fundamental in overhauling chemicals legislation in the European Union. The past decade has witnessed a revolution in EU chemicals policy. Under old chemical legislation there was insufficient information about

existing substances and their adverse effects. After a long and broad consultative process, the EU adopted a new chemicals law, known as REACH, to close this information gap. REACH sets new standards in chemicals legislation and places the burden of proof on industry to ensure that chemicals are safe.

This brochure gives an overview of current EU legislation on different aspects of chemicals management and shows how SAICM principles are applied. It also showcases projects co-funded by the European Commission, EU Member States, NGOs and industry to promote them.

Sound chemicals management is essential to the sustainable development of all societies. Each country is responsible for ensuring the highest level of protection for its citizens and the environment. The European Commission is committed to playing its part in achieving chemical safety for citizens and the environment worldwide.

**Stavros Dimas**  
European Commissioner for the Environment



MAIN EU  
CHEMICALS  
MANAGEMENT  
POLICIES

# The EU and the Strategic Approach to International Chemicals Management

The European Union played a pivotal role in the launch of the Strategic Approach to International Chemicals Management (SAICM), which was developed and negotiated with the participation of a wide range of stakeholders from more than 140 countries. It was adopted by the United Nations Environment Programme's Governing Council in February 2006 in Dubai.

The SAICM Global Plan of Action sets out nearly 300 different activities that will help countries reach its overall objective of achieving the sound management of chemicals throughout their life-cycle so that, by 2020, they are used and produced in ways that reduce major adverse effects on health and the environment.

Strong emphasis is put on capacity-building – the development of institutions, policies, monitoring tools, training facilities, networks and data bases – and technical assistance to developing countries and countries with transition economies to help them manage chemicals safely. This will help close the gap between developing and developed nations in sound chemicals management.

A voluntary trust fund, known as the Quick Start Programme (QSP), was set up to mobilise money for the start-up phase and enable countries to start implementation, especially through capacity-building.

The EU is committed to SAICM and is actively implementing it through its policies and legislation, while also working with other countries to meet the 2020 goal.



# REACH: a revolution in chemicals policy

With almost a third of the global market, the EU is one of the world's largest producers of chemicals. Until quite recently, EU chemical legislation was a patchwork of many different rules and regulations and insufficient information was available to assess and control chemical substances effectively.

The new EU chemicals policy REACH, concerning the Registration, Evaluation, Authorisation and restriction of Chemicals, which came into force on 1 June 2007, creates a single regulatory system for dealing with chemical substances. It seeks to close the knowledge gap that has existed so far and places greater responsibility on industry to manage the risk of chemicals and provide appropriate safety information to professional users. The new legislation also put obligations on industry to inform consumers about the presence of the most hazardous substances in products. The most dangerous chemicals will be phased out under REACH, which encourages the progressive replacement of dangerous chemicals with safer ones.

The information generated by REACH will provide input into this process and into many other pieces of legislation and REACH fulfils many SAICM principles, particularly those relating to knowledge and information on chemicals and chemicals management.



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## Registration

Each producer and importer of chemicals in volumes of 1 tonne or more per year must register them with the European Chemicals Agency (ECHA) and submit information on their properties, uses and safe ways of handling them. Those registering chemicals can use existing data and are obliged to share data. Producers and importers have to pass safety information on to those who use a substance in the course of their industrial or professional activities. This is to ensure they know how to use the substances without risks to workers, consumers and the environment.

## Evaluation

The evaluation process enables public authorities to look in greater detail at registration dossiers and at substances of concern. The authorities can request more information if necessary. All proposals are scrutinised to limit animal testing to the absolute minimum. REACH makes data-sharing on animal test results compulsory and prescribes the use of alternative methods wherever possible.

## Authorisation

Authorisation is required for uses of chemicals that cause cancer, mutations or problems with reproduction, or that accumulate in our bodies and the environment. Authorisation to use these chemicals, or chemicals raising an equivalent concern, will be granted only to companies that can show that the risks are adequately controlled or if the social and economic benefits outweigh the risks where no suitable alternative substances or technologies exist. The aim is to encourage progressive substitution – the replacement of the most dangerous chemicals with safer alternatives.

## Restrictions

REACH will introduce clearer procedures for restricting the use of dangerous substances at EU level. A restriction or ban can be imposed on the manufacture, placing on the market or use of certain substances, where there is an unacceptable risk to health or the environment.

## European Chemicals Agency (ECHA)

The European Chemicals Agency, which is based in Helsinki, was set up to manage the day-to-day operation of the registration, evaluation, authorisation and restriction processes of chemical substances. ECHA centralises the processing and storing of the registrations of chemical substances for the entire EU, as well as Norway, Iceland and Liechtenstein. ECHA also provides expert opinions to the European Commission in the authorisation and restriction processes required under the legislation.

Much of the information about the chemicals generated under REACH will be publicly available and can therefore also assist governments and other stakeholders in non-EU countries.

The European Commission is in contact with a large number of non-EU countries to help them with training and technical assistance concerning REACH requirements. REACH has the potential to inspire new standards worldwide, although it is for each country to decide whether the European approach is compatible with their specific circumstances.

### Further information:

[http://ec.europa.eu/environment/chemicals/reach/reach\\_intro.htm](http://ec.europa.eu/environment/chemicals/reach/reach_intro.htm)  
[http://ec.europa.eu/enterprise/reach/index\\_en.htm](http://ec.europa.eu/enterprise/reach/index_en.htm)  
<http://echa.europa.eu/>

## Common rules on labelling and packaging

The chemical industry is a large source of employment worldwide. In the EU it employs around 1.2 million people in 29,000 chemicals producing companies. The companies that process substances and preparations also employ many thousands of workers. It is essential to protect these workers, as well as consumers and the environment, from the potential dangers of chemical substances.

Many countries have developed systems for providing information on hazardous properties and control measures aimed at ensuring their safe production, transport, use and disposal. However, those systems are not always compatible with each other and often require multiple labels and safety data sheets for the same product.

In December 2002, the United Nations adopted a system to provide criteria which ensure that the same hazards are described and labelled in the same way all around the world. The Globally Harmonised System of Classification and Labelling of Chemicals is a common approach for employees in the industry, emergency workers, those involved in transporting chemicals and the public.

New EU legislation on the classification, labelling and packaging of substances and mixtures (CLP), which came into force in January 2009, now follows the UN system. Companies will be required to classify, label and package hazardous chemicals (substances and mixtures) in accordance with the CLP legislation before placing them on the market. The European labelling provisions take on board the red-framed hazard pictograms, signal words, hazard and precautionary statements found in the UN Globally Harmonised System.



**Further information:**

[http://ec.europa.eu/environment/chemicals/ghs/index\\_en.htm](http://ec.europa.eu/environment/chemicals/ghs/index_en.htm)

[http://ec.europa.eu/enterprise/reach/index\\_en.htm](http://ec.europa.eu/enterprise/reach/index_en.htm)

# Dealing with waste

As European society has grown wealthier it has created more and more waste. Each year in the European Union 1.3 billion tonnes of waste are thrown away. Some 40 million tonnes of this is hazardous. This requires specific legislation on chemical waste.

## Hazardous waste

Hazardous waste poses a greater risk to the environment and human health than non-hazardous waste and requires a stricter control regime. The classification of hazardous and non-hazardous waste is based on the system for the classification and labelling of dangerous substances and mixtures, which ensures the application of similar principles over the whole life cycle of waste.

EU law imposes record keeping on hazardous waste for each stakeholder in the waste management chain, from the waste producer to the final disposal. The law also provides that hazardous waste is not diluted or mixed together or with other waste or materials, to prevent harming the environment and the public. EU Member States have monitoring and inspection obligations for the proper application of this legislation.

The export of hazardous waste to non-OECD countries is prohibited by EU legislation on shipments of waste.

### Further information:

[http://ec.europa.eu/environment/waste/hazardous\\_index.htm](http://ec.europa.eu/environment/waste/hazardous_index.htm)

### Electrical and electronic waste

EU legislation restricting the use of hazardous substances in electrical and electronic equipment and promoting the collection and recycling of such equipment has been in force since February 2003. The legislation sets out rules for the creation of collection schemes where consumers return their used e-waste free of charge. The objective is to prevent waste and increase the collection, recycling and/or re-use of such products. The legislation also bans heavy metals such as lead, mercury, cadmium, and chromium and flame retardants such as polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) to avoid the dangers of hazardous substances leaking into the environment and/or contaminating materials for recycling.

EU laws have contributed to the reduction of environmental impacts from electronic appliances. Despite these rules, a significant amount of electrical and electronic waste is still potentially going to sub-standard treatment sites in or outside the European Union. The illegal trade of electrical and electronic waste to non-EU countries continues to be widespread. The European Commission is proposing a revision of the directives on electrical and electronic equipment to reduce the negative environmental impacts of this fast increasing waste stream.

#### Further information:

[http://ec.europa.eu/environment/waste/weee/index\\_en.htm](http://ec.europa.eu/environment/waste/weee/index_en.htm)



## Safer ship dismantling

Every year between 200 and 600 large merchant ships are taken apart for their valuable scrap metal. Many of the ships taken out of service in Europe, end up being dismantled on beaches in South Asia. These older ships contain many hazardous materials, including asbestos, polychlorinated biphenyls (PCBs) and large quantities of oil.

The problem of ship dismantling is expected to get worse. The dismantling of single-hull oil tankers is predicted to peak over the next few years as they are phased out in favour of safer double-hulled vessels. Around 800 such tankers are expected to be taken out of service.

The lack of environmental protection and safety measures in place has resulted in many accidents, health problems and extensive pollution of wide stretches of the coast. The proposed EU strategy on better ship dismantling includes measures to implement key elements of an international convention on safe ship recycling that is due to be concluded by May 2009. It also proposes measures to encourage voluntary action by the shipping industry and better enforcement of current EU waste shipment law.



Ship Recycling Industry Association (India)

**Further information:**

<http://ec.europa.eu/environment/waste/ships/index.htm>

## Action on mercury



Mercury and its compounds are highly toxic to humans, animals and ecosystems. High doses can be fatal to humans, but even relatively low doses can seriously affect the nervous system, and have recently been linked with possible harmful effects on the cardiovascular, immune and reproductive systems.

Mercury persists in the environment where it can change into methylmercury, its most toxic form. Methylmercury readily passes through both the placenta and the blood-brain barrier, making exposure of women of child-bearing age and children a great concern.

The use of mercury has declined globally and in the EU. Yet some significant uses remain. The main uses of mercury are in small-scale gold mining, the chlor-alkali industry and in some

countries in the production of vinyl chloride monomer, the base of PVC plastic. In the EU, the chlor-alkali industry remains the most significant user, but it is progressively phasing out the use of mercury-containing cells in its production of chlorine and caustic soda. The next most significant use in the EU is in dental amalgam.

The EU has made considerable progress in addressing the global challenges of this toxic metal since it launched its mercury strategy in 2005. The aim of the strategy is to reduce mercury emissions, cut supply and demand and protect against exposure, especially exposure to methylmercury found in fish. This new approach has led to restrictions on the sale of thermometers and other measuring devices containing mercury, has banned exports of mercury from the EU from 2011, and has established new rules on storage.

The EU was one of the driving forces behind the global consensus reached in Nairobi in February 2009 to launch negotiations on an international legal agreement to control mercury.

**Further information:**

<http://ec.europa.eu/environment/chemicals/mercury/index.htm>

# Pesticides

Under EU legislation, pesticides have usually been divided into two major groups: plant protection products, and biocides.

Plant protection products (PPPs) are mostly used in agriculture; however, PPPs are also used by the public in homes and gardens, local authorities and leisure developments.

While these may have the potential to kill or control harmful organisms such as pests, they can also cause unwanted adverse effects on non-target organisms, human health and the environment.

Current EU legislation covers the authorisation, control and to a lesser extent, use, of plant protection products. It lays down a comprehensive risk assessment and authorisation procedure for active substances and products containing these substances. Each active substance must be proven safe to humans – including residues in the food chain, animals and the environment – before it is allowed on the market.

To ensure greater protection for health and the environment, the legislation is being revised. While current controls concentrate on the beginning and end life stages of pesticides, new

legislation will focus on the actual use stage of pesticides to ensure sustainability. In addition, it will strengthen rules for the placing of plant protection products on the market. Proposals for legislation concerning the collection of statistics on plant protection products and the introduction of an environmental protection requirement for machinery used to apply pesticides are also under discussion.

**Further information:**

<http://ec.europa.eu/environment/ppps/home.htm>



# Biocides

They have been regulated under EU law since 1998. Over the past 10 years this has had positive results for the environment and human health, removing dangerous products like strychnine from the European market, and identifying all chemicals used as biocides. These chemicals are now being reviewed to ensure that they work, are safe, and do not harm the environment.

A revision of legislation proposes new rules on EU authorisations which will reduce costs for the approval of low risk products, such as those based on natural substances, or those that do not come into contact with people or the environment. They will also ensure that materials or articles, such as furniture, are treated only with biocidal products authorised for this use in the EU and that treated materials or articles are labelled, so that people, suffering from allergies for example, can avoid substances that may affect them.

Biocides are a wide range of products used to control harmful organisms such as pests and germs. They include insect repellents, rat poison, disinfectants, and a number of industrial chemicals such as anti-fouling paints for ships and material preservatives.

**Further information:**

<http://ec.europa.eu/environment/biocides/index.htm>

Wikimedia





# Cosmetics

The EU regulates cosmetic products to ensure they are not harmful to consumers. Legislation sets out lists of substances which cannot be included in cosmetic products or which they may contain only under specific restrictions and conditions. To protect consumers and enable them to make informed choices, packaging must bear certain information, including a list of ingredients. The EU law on cosmetics is currently under revision, in order to ensure greater safety for consumers, while simplifying the rules and encouraging innovation. For the first time in the EU, the new legislation will include special rules on the use of nanomaterials.

**Further information:**

[http://ec.europa.eu/enterprise/cosmetics/index\\_en.htm](http://ec.europa.eu/enterprise/cosmetics/index_en.htm)



## Playing safe

Children's health and safety demands the highest possible protection. The EU is currently strengthening rules on toy safety, particularly those relating to the use of chemical substances. Chemicals that may cause cancer, mutations, or harm reproduction will no longer be allowed in accessible parts of toys. For certain substances like nickel, tolerable limits will be reduced and toxic heavy metals, such as mercury and lead will no longer be able to be intentionally used in toys. Fragrances will either be completely forbidden if they have strong allergenic potential or will have to be labelled as potentially allergenic to consumers.

**Further information:**

[http://ec.europa.eu/enterprise/toys/2008\\_108\\_directive.htm](http://ec.europa.eu/enterprise/toys/2008_108_directive.htm)



Butterfly - © Migacz - Fotolia.com

## International treaties

As chemicals can travel long distances in the environment and are traded internationally, chemical safety is a global concern and has inspired a number of international initiatives. The European Union plays a leading role in all these initiatives and cooperates closely with non-EU countries.

They include the **Stockholm Convention on Persistent Organic Pollutants (POPs)**. POPs are chemical substances that build up in the environment and the food chain and pose health risks to humans and the environment. The Stockholm Convention currently targets 12 POPs. This group of priority pollutants consists of pesticides such as DDT, industrial chemicals such as polychlorinated biphenyls (PCBs), and unintentional by-products of industrial processes such as dioxins. The EU supports proposals to add additional chemicals to the convention.

The convention aims to ensure the sound environmental management of chemical stockpiles and waste that contain POPs. EU legislation implementing the Stockholm Convention goes further than the international agreement. Its aim is to eliminate, rather than just restrict, the production and use of internationally recognised POPs. The EU adopted an

implementation plan in 2007 to complement Member State national plans.

The European Commission and its Member States also work under the Protocol to the Regional United Nations Economic Commission for Europe's Convention on Long-Range Transboundary Air Pollution on POPs, which entered into force in 2003. The UNECE Protocol targets 16 POPs, although additional chemicals can be added.

**Further information:**

*[http://ec.europa.eu/environment/pops/index\\_en.htm](http://ec.europa.eu/environment/pops/index_en.htm)*

**The Rotterdam Convention** is another global treaty addressing the risks of certain hazardous chemicals and pesticides in international trade.

The convention covers pesticides and industrial chemicals that are banned or severely restricted in participating countries. It facilitates the exchange of information on those chemicals and gives countries the right to refuse imports of certain chemicals which they cannot manage safely. This is known as the Prior Informed Consent (PIC) procedure.

EU legislation goes significantly beyond the convention's requirements, covering all countries, whether they are party to the convention or not, and includes a broader range of chemicals. The EU requires the explicit consent of importing countries before PIC chemicals and chemicals qualifying for PIC notification can be exported. It also requires all dangerous chemicals to be appropriately packaged and labelled when exported.

**Further information:**

<http://ec.europa.eu/environment/chemicals/pic/>

The **Basel Convention** came into force in 1992 in response to concerns about the risks of international shipments of hazardous and other waste.

Economic growth and globalisation in recent decades has led to an increase in the transport of waste across borders by road, rail or ship. These shipments of waste sometimes involve hazardous wastes and can be harmful to human health and the environment. The convention regulates the movements of hazardous and other wastes across borders by applying the Prior Informed Consent (PIC) procedure. Shipments made without consent are illegal. The convention also obliges its parties to ensure hazardous and other wastes are managed and disposed of in an environmentally-sound manner.

In July 2007 new EU legislation on shipments of waste was adopted. It streamlined the existing control procedures, incorporating recent changes in international law and strengthened conditions on enforcement and cooperation between Member States in cases of illegal shipment. Its aim is to reinforce, simplify and provide more detail on the existing procedures for controlling waste shipments.

**Further information:**

<http://ec.europa.eu/environment/waste/shipments/index.htm>



# International chemicals management programmes

In 1978, the Paris-based **Organisation for Economic Cooperation and Development (OECD)**, established a programme to help its 30 industrialised member countries develop effective policies and tools for protecting human health and the environment. In recent years a number of developing countries have joined the programme. Together, the participating countries cover almost 90% of global chemicals production.

The programme has developed many tools and instruments for information gathering, testing, and the assessment and management of the safety of chemicals and pesticides. In this way, the main chemicals producing countries in North America, Europe and the Asia-Pacific region can benefit from the collective experience and scientific knowledge available. One of the main achievements has been the establishment of the Mutual Acceptance of Data (MAD) scheme, which is greatly reducing the costs of testing.

The European Commission provides significant financial support to the OECD Chemicals Programme and actively participates in its work.

**Further information:**

[http://www.oecd.org/department/0,3355,en\\_2649\\_33713\\_1\\_1\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/department/0,3355,en_2649_33713_1_1_1_1_1_1,00.html)

[http://www.oecd.org/department/0,3355,en\\_2649\\_34365\\_1\\_1\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/department/0,3355,en_2649_34365_1_1_1_1_1_1,00.html)

The **United Nations Environment Programme (UNEP) Chemicals Branch** is the centre for all chemicals-related activities of the United Nations Environment Programme and the catalyst for the UN system for global action on the environmentally sound management of chemicals. UNEP Chemicals was responsible for launching the negotiations for the Basel, Stockholm and Rotterdam Conventions and will provide the secretariat for the recently agreed international negotiations on mercury. It works with developing countries to build capacity in the clean production, use and disposal of chemicals and disseminates information on chemical safety.

Both the Commission and the EU Member States have provided significant support to UNEP Chemicals.

**Further information:**

<http://www.chem.unep.ch>

# SAICM IN PRACTICE

Focus on specific projects to promote sound environmental management of chemicals in the EU and beyond



Basel Convention Coordinating Centre for the African Region in Nigeria

# Managing electronic waste in Africa

2008 European Commission project

With most Information and Communication Technology (ICT) – such as computers, TVs and mobile phones – becoming obsolete after only a few years, e-waste is the fastest growing type of waste in the world. In Africa, which has undergone a technology revolution in recent years, this is becoming a serious cause for concern.

Safe collection and management of electronic waste is essential because these products are made up of numerous different materials and chemicals, many of which are toxic. Such systems are not yet in place in many developing countries. This not only leads to pollution and health risks, but also means business opportunities in material recovery and recycling are being missed.

E-waste is generated in all major residential areas and business locations in Africa. In coastal West Africa, this problem is aggravated by a constant stream of used and obsolete electronic equipment entering ports from industrialised countries.

Complementing measures taken within the EU to better control waste flows to Africa, the European Commission is funding a project focusing particularly on North and West African countries to tackle the e-waste problem. It aims to encourage African countries to comply with international agreements and implement national laws and regulations concerning electronic waste.

The project will involve a research study on used and obsolete e-equipment that is imported – in particular from European countries – into West Africa and other African countries. The results of the study will be used to prepare national assessments on e-waste and environmentally-sound management plans in two importing countries. In one of these countries, the functioning and sustainability impacts of the e-waste sector will be investigated.

The project includes a programme in five importing countries – Benin, Egypt, Ghana, Nigeria and Tunisia – to prevent illegal trafficking of e-waste. It will recommend measures for monitoring and controlling cross-border movements. The programme will also include a scheme for exchanging information between exporting and importing countries in Africa and in Europe.

The project will give advice on how countries can benefit from recovering and recycling e-waste in the countries concerned, since the end of illegal trafficking will not eliminate the great deal of waste currently requiring proper treatment and domestic use of electric and electronic equipment is continuing its upward trend in Africa.

**Further information:**

[http://ec.europa.eu/europeaid/where/worldwide/environment/documents/2008\\_aap\\_enrtp\\_en\\_](http://ec.europa.eu/europeaid/where/worldwide/environment/documents/2008_aap_enrtp_en_)

# Training Chinese policy makers and regulators on REACH

June and October 2008, Delegation of the European Commission in Beijing

China is in the process of reforming its regulatory framework for managing the risks posed by chemicals. While current regulations, measures and guidelines cover hazardous chemicals and the testing and registration of new chemicals, there is a need for more comprehensive national policy, legislation, law enforcement and public participation. Many harmful substances that are banned or strictly controlled in the EU are still produced and used without restriction in China. This has led to frequent accidents involving hazardous chemicals.

To explore how China could build on aspects of REACH to develop its laws on chemical risk management, the European Commission ran two sets of training courses in June and October 2008. Some 40 participants from the Chinese Ministry of Environmental Protection and affiliated institutes, as well as

representatives from the State Administration of Work Safety, the Ministry of Health and Provincial Environmental Protection Bureaus, took part.

The programme, supported by the EU-China Policy Dialogues Support Facility, explained EU standards, procedures and legislation and highlighted aspects of REACH that might be integrated into any reform of China's regulatory framework. The sessions raised a number of issues of interest to Chinese policy makers, such as the impact of EU chemical law on current and future China chemical regulations. The training programme also created a pool of experts who will be able to continue the training and dissemination in China.

Some specific elements of REACH have already been integrated into recent regulations in China.

The training materials and background documents used in the courses are available on the following website (in English and Chinese):

**Further information:**

<http://www.eu-chinapdsf.org/english/NewsInfo.asp?NewsId=895>



Delegation of the European Commission in Beijing



# Sound chemicals management for a healthier environment in India and Vietnam

2006 to 2008, European Commission and Germany

A project co-financed by the European Commission and the German Federal Ministry for Economic Cooperation and Development has helped strengthen the capacities of authorities in India and Vietnam to develop environmentally sound and sustainable management of chemicals and pesticides in semi-urban and urban areas.

Some 100 local staff from government institutions, business associations, professional training centres and universities were trained in how to support chemical-intensive small and medium-sized businesses. Training was aimed at improving efficiency in the production process and raising awareness about health and environmental risks.



Managers of 50 small and medium-sized businesses (SMEs) received on-site coaching in how to manage chemicals and hazardous waste in a safe and environmentally sound manner. The companies reported increases in efficiency and cost savings of at least 10 to 15 % of total production costs through improved chemicals management. The project also led to improvements in health and safety for around 3,000 workers.

As a result of national stakeholder consultations, the project produced two policy guidance documents outlining the gaps in policy making and regulatory action in the area of chemicals management.

The Sri Ramachandra University in India and the Centre for Environmental Consultancy and Training in Vietnam, which collaborated with the German Technical Cooperation (GTZ) on the project, will act as resource centres for future support to training activities of national authorities and companies.

**Further information:**

<http://www.chemicalmanagement.org>

# Study to determine emission factors for hazardous substances released from open burning of waste in developing countries

2007 to 2009, Sweden



In a project carried out by the United Nations Environment Programme (UNEP), Sweden, the United States<sup>1</sup>, China and Mexico are helping to develop a method for determining emission factors for two families of toxic chemicals known as dioxins and furans produced during waste burning in developing countries.

Under the Stockholm Convention, the 162 countries that are party to the convention are required to develop a dioxin inventory. The first inventories showed that the majority of dioxin emissions in developing countries come from open burning processes in agriculture, forestry or waste.

Developing countries do not typically have incinerators for safe waste disposal, so the waste is dumped and burned. The burning of waste in the open without any technical equipment is often considered as the largest source of dioxins and furans – larger than from all other industrial sources.

As there is currently no measured data to estimate the release of these chemicals in developing countries, Sweden, the United States, China and Mexico have joined forces through this project to fill the knowledge gap.

China and Mexico have provided detailed information on the composition of waste that is burned in the open and on the conditions under which the waste is burned. The expertise in dioxin research and emission factors, and the burning facilities were provided by Sweden and the United States.

Cooperation between developed and developing countries facilitated by the project provides a strong potential for capacity-building between governments, research groups, NGOs, and industry.

The results will be used to propose best environmental practices to reduce the release of dioxins and furans and reduce the exposure of people living close to sites where burning takes place.

**Further information:**

[http://www.chem.unep.ch/Pops/pcdd\\_activities/projects/opburn0709.htm](http://www.chem.unep.ch/Pops/pcdd_activities/projects/opburn0709.htm)

[http://www.chem.unep.ch/Pops/pcdd\\_activities/toolkit%20experts%20meetings/default.htm](http://www.chem.unep.ch/Pops/pcdd_activities/toolkit%20experts%20meetings/default.htm)

<sup>1</sup> Additional funding by Chlorine Chemistry Division, USA.



# Substitution of DDT-based anti-fouling paint project in China

2007 to 2009, Sweden

Before its use was banned by the Stockholm Convention, DDT was an important constituent of anti-fouling paints, used to kill the spores and larvae of marine fouling organisms that attach themselves to the hulls of boats and ships.

Supporting China in its efforts to come to full compliance with the Stockholm Convention, this Swedish project aims to

guide the Chinese authorities in the choice of alternatives to the wide use of DDT-based anti-fouling paints on smaller boats in China. The programme will work with Chinese Ministry of Environmental Protection (MEP/FECO) and the regional and local environmental bureaus. The project was due to start in 2007 but was delayed due to the powerful earthquake that hit China. It re-started in 2009.

KEMI, the Swedish chemicals agency, will share its experience with legislation and assessment methods, focusing on anti-fouling paints. This will include the Swedish risk mitigation method of substituting hazardous substances with less hazardous ones. Planned activities include study visits to research stations and site visits to shipyards to examine environmentally-friendly alternatives (including mechanical anti-fouling procedures) both in Sweden and the United Kingdom. Training workshops for environmental authorities in Sweden and in China will facilitate continuing contact between the authorities.

**Further information:**

<http://www.kemi.se>



Biolocus

# Clean-up projects in environmental hotspots in Serbia

2005 to 2007, Czech Republic

The bombing of two oil refineries and a chemical plant in Pancevo (NIS Oil Refinery and HIP Petrochemija) and Novi Sad (NIS Oil Refinery) during the Kosovo conflict in 1999 led to major spillages of oil and chemicals which contaminated ground water and caused major environmental and human health risks.

Based on the results of the UNEP "hotspots" evaluation, the Czech and Serbian Ministries of the Environment cooperated in the clean-up project which was carried out by a team of Czech and local experts. The project involved assessing the level of contamination (measurement, sampling, analysing of sediments), performing pilot clean-up tests and the preparation of the final clean-up plan. Contamination surveys and a laboratory-scale pilot test of bioremediation – a method which allows natural processes to clean up harmful chemicals in the environment – were performed on the contaminated soil. Feasibility studies were prepared based on the pilot tests. The operation of the groundwater remediation system in Pancevo was monitored, evaluated, optimised and updated. The training of Serbian experts in a Czech refinery plant and cooperation with local authorities were integral parts of the project.

The project led to reduced groundwater contamination, especially in HIP Petrochemija, Pancevo. Some 300 kg of

contaminants were cleaned up daily, significantly decreasing risks to human health and the environment. Capacity-building activities, transfer of technologies and know-how contributed to a fully-operational groundwater remediation system in HIP Petrochemija. The remediation activities continue.

**Further information:**

[http://www.mzp.cz/en/international\\_development\\_assistance](http://www.mzp.cz/en/international_development_assistance)



Czech Ministry of the Environment



# Integrated programme for the SAICM in Mexico

2007 to 2009, UK

Mexico has developed procedures to achieve an integrated approach to chemicals management in Latin America.

The project, which took place in the framework of the United Kingdom-Mexico Sustainable Development Dialogue, aimed to increase Mexico's capacity to handle chemicals safely, identify areas for improvement, and contribute to raising awareness across different sectors of the need to better integrate safe management of chemicals into national policy.

This process required a coordinated effort among different government actors, industry, academia and other sectors of society. Partnerships and institutional capacity-building were crucial to establishing initiatives, policies and strategies for risk prevention instruments and reduction of the adverse effects of chemicals. Stakeholders involved included the National Chamber of Chemical Industries (ANIQ), the Ministries of Health, Customs, Foreign Affairs, Economy, Labour, Agriculture and Environment, as well as universities and research centres.

The project consisted of three major activities, starting with a priority-setting workshop. Some 95 people from 12 government departments, businesses, industrial organisations, and various

universities, attended. A national chemicals profile – a record of chemical substances and available information on in-country production, import, export, use and waste-generation of chemical substances – and a national capacity report were also developed. The national capacity report was based on the United Nations Institute for Training and Research (UNITAR) guidelines.

Lessons learned were shared with other countries from the Latin America and Caribbean Region at a SAICM Regional Workshop in December 2008, during the 1st International Seminar on Rational Strategies for Chemical and Waste Management held in Chile. A number of other countries in the region expressed an interest in developing their own plans to implement SAICM.

**Further information:**

[http://ukinmexico.fco.gov.uk/en/working-with-mexico/Sustainable\\_Development/SDD\\_Programme/Themes\\_Projects/](http://ukinmexico.fco.gov.uk/en/working-with-mexico/Sustainable_Development/SDD_Programme/Themes_Projects/)  
<http://www.ine.gob.mx>

# Toxic-free toys campaign

2008, Women in Europe for a Common Future (WECF)

Women in Europe for a Common Future (WECF), a non-governmental organisation (NGO) working for sustainable development, protection of human health and environment and poverty reduction, organised a public toy test in three European cities in the run-up to Christmas 2008. The aim was to raise awareness of the potential dangers posed by chemicals in some children's toys.

WECF invited two laboratories to test a selection of toys brought along by parents. The tests showed the presence of formaldehyde in plywood puzzles and the treatment of stuffed toys with brominated flame retardants. Medical experts advised on preventive actions parents could take. The main TV-channels and newspapers of Germany, The Netherlands, and France covered the campaign.

To coincide with the 60th International Nuremberg Toy Fair in January 2009, WECF published a Toys Guide which provides tips on choosing toxic-free toys. The brochure provides concise information about the most hazardous substances found in toys. It also gives concrete tips on how consumers can play it safe when buying toys for children.

## Further information:

<http://www.wecf.eu/>



# PRISME<sup>2</sup>

## Promoting Responsibility in SMEs

2008-2010, European Chemical Industry Council (CEPIC)

Greater involvement of small and medium-sized enterprises (SMEs) in promoting responsibility for sound chemicals management is one of the key objectives of the new Cefic-led project, known as PRISME<sup>2</sup>.

The project seeks to promote the industry's Responsible Care<sup>®</sup> initiative under which companies work – through their national associations – to continuously improve their environmental health and safety performance. Since it was launched in 1985, Responsible Care<sup>®</sup> has helped European companies substantially improve their HSE performance and their profitability.

PRISME<sup>2</sup> shares the same goals as Responsible Care<sup>®</sup>. These include identifying energy saving measures, reducing the number of working days lost to sickness and injury and building relationships with local communities. The objectives also involve reducing emissions, promoting the responsible use of resources and sustainable management of waste and ensuring the safe management of chemicals throughout the value chain.

To meet the needs of SMEs, the PRISME<sup>2</sup> project pursues two strategies. It gathers best practices and tailor-made tools applicable in the business environment of small companies. It also establishes a networking programme based on workshops involving experts from industry, authorities and trade unions.

The project's squared symbol reflects redoubled efforts from industry, trade unions, managers and employees. Trade unions are key partners in PRISME<sup>2</sup>. In Europe, they have been significantly involved in Responsible Care<sup>®</sup> since 2004.

Cefic's EU partners in this multi-stakeholder project are the European Mine, Chemical and Energy Workers' Federation (EMCEF), the European Chemical Employers Group (ECEG)



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and Tomorrow's Company, a United Kingdom-based think tank that examines the role of business and its relationship with society and the environment. Other partners include chemical industry associations and sector trade unions in six countries piloting the project between mid 2009 and 2010: The Czech & Slovak Republics, Germany, Greece, Spain and the United Kingdom. Following the pilot, PRISME<sup>2</sup> will be rolled out across the European chemical industry.

The EU co-funds the project under the EU's Directorate-General for Enterprise and Industry programme on Corporate Social Responsibility. DG Enterprise and Industry has promoted the corporate social responsibility (CSR) agenda in the EU for many years, with particular emphasis recently on reaching small and medium-sized enterprises.

**Further information:**

<http://www.cefic.org/en/prisme2.html>





EUROPEAN  
COMMISSION  
FINANCIAL  
ASSISTANCE



EuropeAid

# European Commission financial assistance

to developing countries and international activities for environmentally sound chemicals management

The European Union is a strong supporter of SAICM and its policies and legislation are fully in line with SAICM principles and objectives. Chemicals management is very much an international and global matter. This is why the European Commission channels some of its development aid towards chemicals management.

In keeping with the country-driven approach, the vast majority of European Commission assistance goes to priorities set by developing country governments themselves. Governments wishing to receive support from the Commission to meet SAICM objectives must come forward with project proposals.

The European Commission recognises that there are reasons why environmental protection in general, and sound chemicals management in particular, is not a priority for many developing countries in their use of aid. As a result, the Commission has a specific programme of environmental support, the thematic programme for environment and the sustainable management of natural resources, including energy (ENRTP). This includes an allocation of some €15 million for the period 2007 to 2010 to tackle chemicals, wastes and sustainable consumption and production. This funding is in addition to money allocated to bilateral programmes and is used to fund the work of international organisations.

The first ENRTP allocation for chemicals was approved for SAICM in 2007, €2.4 million of which went to the Quick Start Programme, while €0.6 million financed a multi-faceted project supporting the work of the Secretariat. This involved an awareness-raising project by a coalition of NGOs and funding for the participation of developing countries at the 2nd International Conference on Chemicals Management (ICCM) – SAICM's governing body. The ENRTP has also been used to support SAICM-related Multilateral Environmental Agreements.

Before the adoption of SAICM, the forerunner of the ENRTP also supported projects relevant to SAICM objectives, including capacity-building, the dissemination of information and work on pesticides. Between 2003 and 2006, some €4.5 million was allocated to these activities.

**Examples of recent projects supported by the European Commission. In 2007-2008, African, Caribbean and Pacific countries (ACP) requested €1.95 million from a regional allocation through the Quick Start Programme (QSP) for initial SAICM implementation and capacity-building. Some €4.5 million were also provided for cleaning up obsolete pesticides in Africa in cooperation with the Food and Agriculture Organisation (FAO) (Africa Stockpiles Programme). The funds were committed by the Commission in 2008.**

The key chemicals management projects financed or committed by the European Commission in recent years include:

Year	Country-Region	Contractor	Project	EC contribution in €
2003	Global	Pesticide Action Network UK (PAN-UK)	Pesticides and poverty: implementing chemical conventions	<b>1,173,957</b>
2003	Africa	World Bank	Africa Stockpiles Programme horizontal activities	<b>1,000,000</b>
2003	All/multiple developing countries and countries in transition	WHO – Intergovernmental Forum on Chemical Safety (IFCS)	Capacity building for the use of and contribution to INFOCAP (Information exchange Network on capacity-building for the sound management of chemicals)	<b>500,000</b>
2003	All/multiple developing countries	United Nations Institute for Training and Research (UNITAR)	Assisting developing countries to prepare national profiles, set priorities and strengthen information exchange for the sound chemicals management	<b>760,000</b>
2004	Asia	UITAR	Strengthening national and regional capacities for implementing the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) in ASEAN	<b>926,566</b>
2006	Global	UNEP	SAICM Secretariat activities	<b>150,000</b>
2006	Global	OECD	Promotion of the use of Quantitative Structure Activity Relationships (QSAR) in regulatory assessments	<b>250,000</b>
2007 & 2008	Global	Rotterdam Convention	Capacity-building for developing countries and support for participation in conference of parties (COP)	<b>180,000</b>
2007	Global	Stockholm Convention	Development of a toolkit on reducing dioxin emissions	<b>100,000</b>
2007	Global	Montreal Protocol	Support of the technical panels' work on making the Protocol more effective in combating ozone depleting substances	<b>300,000</b>

2007 & 2008	Global	UNEP	Preparatory work for and participation of developing countries in decision-making on mercury	280,000
2007	Global	UNEP	SAICM secretariat, Outreach and Participation in ICCM 2	600,000
2007	Global	UNEP	SAICM Quick Start Programme Trust Fund	2,400,000
2008	African, Caribbean and Pacific countries	UNEP	SAICM Quick Start Programme Trust Fund	1,950,000
2008	Africa	FAO	Clean-up of obsolete pesticides, improving pesticides management and sustainable pest management	4,448,220
2008	Africa		Building local capacity to address the flow of e-wastes and electric or electronic products destined for reuse	1,000,000
2008	Coal dependent emerging economies	UNEP	Reducing Mercury Emissions from Coal Combustion	999,915
2008	Global	UNIDO and Blacksmith Institute	Global Identification and Evaluation of Polluted Sites	580,000
2008	Global	Montreal Protocol	Information-sharing on HCFCs and mobile air conditioning	400,000
2008	Global	OECD	Review and development of test guidelines for the safety testing and assessment of manufactured nanomaterials	50,000
2008	Global	OECD	Promotion of the use of Quantitative Structure Activity Relationship (QSAR) models and their integration into different regulatory frameworks	500,000
2003 - 2008	<b>Total identified <sup>2</sup></b>			<b>18,550,000</b>

<sup>2</sup> This does not include actions that were taken under bilateral and regional rural development projects

European Commission

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