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Internationale Weiterbildung  
und Entwicklung gGmbH

Capacity Building  
International, Germany



# ENVIRONMENTAL AGREEMENTS AND CLEANER PRODUCTION

*Questions and Answers*

UNITED NATIONS ENVIRONMENT PROGRAMME



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## **Frequently Asked Questions:**

### **Applying Cleaner Production to Facilitate the Implementation of Multilateral Environmental Agreements**



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Internationale Weiterbildung  
und Entwicklung gGmbH

United Nations Environment Programme  
Division of Technology, Industry & Economics  
In co-operation with InWent



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### **Cleaner Production**

Cleaner Production (CP) is the continuous application of an integrated preventive environmental strategy to processes, products, and services to increase overall efficiency, and reduce risks to humans and the environment. Cleaner Production can be applied to the processes used in any industry, to products themselves and to various services provided in society. It is a broad term that encompasses terms such as eco-efficiency, pollution prevention and green productivity. In essence, applying Cleaner Production protects the environment, the consumer and the worker while improving industrial efficiency, profitability and competitiveness.

### **Cleaner Production Centres (CPCs)**

United Nations Environment Programme (UNEP) have joined forces with United Nations Industrial Development Organisation (UNIDO) to help introduce CP in developing countries and countries in transition. The UNIDO/UNEP Programme for National Cleaner Production Centres (NCPCs) is a unique programme of capacity development to help achieve adoption and further development of the Cleaner Production concept at the national level. In addition to 25 NCPCs currently in operation, other institutions have established centres to provide Cleaner Production expertise to industry and government. Over 100 centres of various types are currently operating.

Cleaner Production centres (CPCs) have become a major source of expertise on preventive environmental strategies in their respective countries. The centres have conventionally promoted Cleaner Production through a mix of awareness raising, training, demonstration projects and technical advisory services. As such, CPCs are expected to play an important role in promoting the application of preventive environmental strategies by governments and industries in emerging countries.

### **CPC capacity building programme**

To be effective and sustainable, it is important that CPCs continuously expand their service package and include other related environmental issues such as energy efficiency, chemicals and waste management, and adoption of environmentally sound technology. CPCs also need to be aware of the shifting global emphasis on expanding beyond the boundaries of Cleaner Production and incorporating sustainable consumption.

In this context, UNEP/DTIE together with InWEnt (Internationale Weiterbildung und Entwicklung gemeinnützige GmbH) have initiated a capacity building training programme for CPCs. One of the modules developed under this programme includes "Using Cleaner Production to Facilitate the Implementation of Multilateral Environmental Agreements (CP & MEAs)". This was designed to provide an overview of MEAs, and the CP relevant elements of the Basel Convention, Climate Change Convention and Stockholm Convention on Persistent Organic Pollutants.

This booklet summarises some of the issues covered during the Cleaner Production & MEA training sessions using a "Question & Answer" format. It also focuses on the Kyoto Protocol and its Clean Development Mechanism (CDM), a topic in which CPCs expressed interest. The booklet also introduces selected country case studies undertaken by the centres that highlight the interface between Cleaner Production and MEAs. Some of the resources used in the preparation of this booklet are listed in section "Where to go for more information".



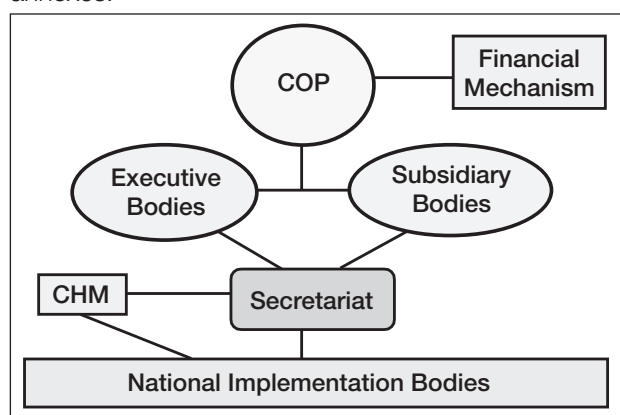
### Q1. What are Multilateral Environmental Agreements (MEA's)?

Multilateral environmental agreements (MEAs) are agreements between states which may take the form of “soft-law”, setting out non-legally binding principles which parties will respect when considering actions which affect a particular environmental issue, or “hard-law” which specify legally-binding actions to be taken to work toward an environmental objective.

### Q2. What are the institutional elements of MEAs?

The institutional elements of MEAs adopted after 1972 include the following main common elements: Conference of Parties, a Secretariat, executive and subsidiary bodies, a clearinghouse mechanism, and a financial mechanism.

*Conference of the Parties (COP) or Conference of the Parties serving as the meeting of the Parties (COP/MOP).* The ultimate decision-making body on the overall implementation and development of their respective MEAs, including the work programme, budget, and adoption of protocols and annexes.



*Secretariat.* The Secretariats perform a number of varied functions depending on the mandate of the MEA. There are two types of Secretariats: those that prepare and service the meetings of the Parties and co-ordinate with other international organisations (e.g., the Montreal Protocol, Convention on Biological Diversity, Stockholm Convention, Rotterdam Convention); and Secretariats that in addition to the functions of the first type perform scientific research, and/or are also involved in implementing programmes or projects at the regional and country levels (e.g., Basel Convention, Global Program of Actions on

Land-Based Sources of Pollution).

*Executive and subsidiary bodies.* Some MEAs establish standing committees or hold inter-sessional meetings that represent their COP/MOP, to review and advise their Secretariats on implementation. Subsidiary bodies, which are generally advisory in nature, reporting to COPs/MOPs on scientific, technical, or financial matters or on progress in implementation, may be internal or external, and be standing bodies or ad hoc with a limited mandate.

*Clearinghouse mechanisms (CHM)* are generally operated by secretariats to facilitate exchange of scientific, technical, legal and environmental information. A few conventions have established regional centers for training and technology transfer, or to assist in implementation.

*Financial mechanisms.* Most of MEAs are funded via voluntary contributions. Financial mechanisms include:

- Regime Budgets. MEAs can establish one or more trust funds, administered by the Secretariats. Budgets are proposed by Parties and approved by the COP.
- Development Assistance. Funds can be provided via foundations (e.g. UN Foundation), bilateral arrangements, private sector donors and non-governmental organisations (NGOs).
- Subsidies. Other multilateral financing mechanisms, such as the Global Environment Facility, The Kyoto Protocol climate-related mechanisms, and the World Bank.



*National implementation bodies.* Implementation bodies at the national level, depending on mandate and design of a MEA, can include designated national authorities, focal points, training and other centres with specific functions.

**Q3. How are MEAs implemented?**

Most of MEAs are implemented via national legislation and regulatory measures. It is important to appreciate the meaning and difference of three key concepts pertaining to MEAs: implementation, compliance and effectiveness.

- Domestic *implementation* of an MEA is a long-term process of converting international commitments and behavioural change of target groups. Often, however, it is understood more narrowly as a process of converting MEA requirements into national legislation.
- *Compliance* with treaties goes beyond implementation in its narrow sense and refers to whether the countries in fact adhere to the provisions in the agreements, and to the measures that countries have undertaken, including procedural measures (e.g. national reporting) and substantive measures (e.g., actual elimination of POPs).
- *Effectiveness* of an agreement, in its broad sense, means whether an MEA has been able to resolve the problem that caused its creation. Cleaner Production is expected to help countries address this element of MEAs.

**Q4. What are the salient features of some major MEAs?**

The following table provides a brief overview of some major MEAs.

MEAs	Brief Overview
<p><b>Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal</b></p> <p>Entered into force: 5 May 1992</p>	<p>Originally designed to address the uncontrolled movement and dumping of hazardous wastes, including incidents of illegal dumping in developing nations by companies from developed countries.</p> <p>The key objectives of the Convention are:</p> <ul style="list-style-type: none"> <li>• to minimise the generation of hazardous wastes in terms of quantity and hazardousness;</li> <li>• to dispose of them as close to the source of generation as possible; and</li> <li>• to reduce the movement of hazardous wastes.</li> </ul> <p>A central goal of the Basel Convention is “environmentally sound management” (ESM), the aim of which is to protect human health and the environment by minimising hazardous waste production whenever possible. ESM means addressing the issue through an “integrated life-cycle approach”, which involves strong controls from the generation of a hazardous waste to its storage, transport, treatment, reuse, recycling, recovery and final disposal.</p>
<p><b>Stockholm Convention on Persistent Organic Pollutants (POPs)</b></p> <p>Entered into force: 17 May 2004</p>	<p>The Convention commits the international community to protect human health and the environment from the chemicals known as persistent organic pollutants (POPs). Some POPs, such as dioxin and furan, are also released as unintended by-products of combustion and industrial processes. While the risk level varies from POP to POP, by definition all of these chemicals share four properties:</p> <ul style="list-style-type: none"> <li>• highly toxic;</li> <li>• persistent, lasting for years before degrading into less dangerous forms;</li> <li>• travel long distances through the air/water; and</li> <li>• accumulate in fatty tissue.</li> </ul> <p>The Convention sets a first goal of ending the release and use of 12 of the most dangerous POPs. More importantly, it sets up a system for tackling additional chemicals identified as unacceptably hazardous. Ultimately, the Convention points the way to a future free of dangerous POPs and promises to reshape our economy’s reliance on toxic chemicals.</p>

MEAs	Brief Overview
<p><b>Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals &amp; Pesticides in International Trade (PIC)</b></p> <p>Entered into force: 24 February 2004</p>	<p>The Rotterdam Convention establishes a first line of defence by giving importing countries the tools and information they need to identify potential hazards and exclude chemicals they cannot manage safely. If a country agrees to import chemicals, the Convention promotes their safe use through labelling standards, technical assistance, and other forms of support. It also ensures that exporters comply with the requirements.</p> <p>The objectives of the Convention are:</p> <ul style="list-style-type: none"> <li>• to promote shared responsibility and co-operative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm; and</li> <li>• to contribute to the environmentally sound use of hazardous chemicals, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import/export</li> </ul>
<p><b>Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC)</b></p> <p>FCCC entered into force: 21 March 1994; Kyoto Protocol not yet in force</p>	<p>The Kyoto Protocol to the UNFCCC will strengthen the international response to climate change. Adopted by consensus at the third session of the Conference of the Parties (COP-3) in December 1997, it contains legally binding emissions targets for Annex I (industrialised and economies in transition) countries. By arresting and reversing the upward trend in greenhouse gas emissions that started in these countries 150 years ago, the Protocol aims to move the international community one step closer to achieving the Convention's ultimate objective of preventing "dangerous anthropogenic (man-made) interference with the climate system". The developed countries are to reduce their collective emissions of six key greenhouse gases by at least 5% below 1990 levels by 2012.</p> <p>The Kyoto deal also agreed on "flexibility mechanisms" designed to make it easier and cheaper for countries to meet the targets. These include an international "emissions trading" scheme allowing industrialised countries to buy and sell emissions credits amongst themselves (joint implementation). They will also be able to acquire "emission reduction units" by financing certain kinds of projects in other Annex I countries. In addition, a "clean development mechanism" for promoting sustainable development will enable industrialised countries to finance emissions-reduction projects in developing countries and to receive credit for doing so. The use of these three mechanisms is to be supplemental to domestic action.</p>
<p><b>Montreal Protocol on Substances that Deplete the Ozone Layer and Vienna Convention</b></p> <p>Montreal Protocol entered into force: 1st January 1989</p>	<p>The Montreal Protocol sets out a mandatory timetable for the phase out of ozone depleting substances (ODSs). This timetable has been under constant revision, with phase out dates accelerated in accordance with scientific understanding and technological advances. The production and consumption of all chlorofluoro-carbons, carbon tetrachloride, methyl chloroform, and halons has been banned in developed countries as of January 1996, and is to be banned by the year 2010 in developing countries. Control measures for other halocarbons, such as methyl bromide and the HCFCs, have also been negotiated.</p> <p>The Protocol is considered one of the most successful environment protection agreements. Recent research by the National Aeronautics and Space Administration (NASA) shows the overall rate of ozone depletion is slowing and it is expected that the Earth's ozone layer will have recovered by the middle of this century if commitment to the Protocol is maintained.</p>

MEAs	Brief Overview
<p><b>Regional Seas Programme &amp; Global Programme of Action for the Protection of Marine Environment from Land-Based Activities (GPA)</b></p> <p>Consists of various conventions, which came into force on different dates</p>	<p>Established in 1974 after the UN Conference on Environment and Development in Stockholm, the Regional Seas Programme aims to encourage groups of countries sharing common seas to find regional solutions to their particular problems. Currently, more than 140 coastal States and Territories are participating in it.</p> <p>The Regional Seas approach was based on periodically revised action plans adopted by high-level intergovernmental meetings and implemented, in most cases, within the framework of legally binding regional Conventions. After Rio, the programme was streamlined in its scope, concentrating on: biodiversity conservation, land-based sources of pollution, and integrated coastal area management.</p> <p>An action plan outlines the strategy and substance of a regional programme, based on the region's particular environmental challenges as well as its socio-economic and political situation, and is usually made up of environmental assessment, environmental management, environmental legislation, institutional arrangements, and financial arrangements.</p>
<p><b>UN Convention on Biological Diversity (CBD)</b></p> <p>Entered into force: 29 December 1993</p>	<p>The Convention establishes three main goals: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources. It also covers the rapidly expanding field of biotechnology, addressing technology development and transfer, benefit-sharing and biosafety.</p> <p>Some of the issues dealt with under the Convention include:</p> <ul style="list-style-type: none"> <li>• Measures and incentives for the conservation and sustainable use of biological diversity.</li> <li>• Regulated access to genetic resources.</li> <li>• Access to and transfer of technology, including biotechnology.</li> <li>• Technical and scientific co-operation.</li> <li>• Impact assessment.</li> <li>• Education and public awareness.</li> <li>• Provision of financial resources.</li> <li>• National reporting on efforts to implement treaty commitments.</li> </ul>
<p><b>Ramsar Convention on Wetlands</b></p> <p>Entered into force: 21 December 1975</p>	<p>Its official name – The Convention on Wetlands of International Importance especially as Waterfowl Habitat – reflects its original emphasis on the conservation and wise use of wetlands primarily to provide habitat for waterbirds. Over the years, however, the Convention has broadened its scope to cover all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities.</p> <p>The Convention includes four main commitments by the Parties:</p> <ul style="list-style-type: none"> <li>• Designate at least one wetland for inclusion in the List of Wetlands of International Importance (the “Ramsar List”) and promote its conservation, including, where appropriate, its wise use.</li> <li>• Include wetland conservation considerations in national land-use planning.</li> <li>• Promote training in the fields of wetland research, management and wardening.</li> <li>• Consult with other Parties about implementation of the Convention, especially in regard to transfrontier wetlands, shared water systems, and shared species.</li> </ul>

MEAs	Brief Overview
<p><b>UN Convention to Combat Desertification (CCD)</b></p> <p>Entered into force: 26 December 1996</p>	<p>With the recognition that desertification is a major economic, social and environmental problem of concern to many countries in all regions of the world, UNCCD promotes a fresh new approach to managing dryland ecosystems and to managing development aid flows.</p> <p>The Convention is implemented through National Action Programmes (NAP), which are the core of the Convention. At the national level, they will address the underlying causes of desertification and drought and identify measures of preventing and reversing it. NAPs will be complemented by subregional and regional programmes, particularly when transboundary resources such as lakes and rivers are involved. The Convention also seeks to engage donor nations and agencies and recipient countries in a new partnership.</p>

**Q5. How does Cleaner Production relate to MEAs?**

Cleaner Production is an overarching concept for preventative environmental strategies. It aims to prevent pollution from occurring, and manages environmental impacts of the whole production process, not just impacts of its output. Cleaner Production addresses the root causes of environmental problems, rather than their effects, through an integrated package of improvements at all stages of a process and product life cycle. Cleaner Production also encourages innovation and stakeholder dialogue, eliminates trade-offs among environment and economic growth, and ensures consumer and worker safety.

With Cleaner Production integrated in the global environmental protection efforts, it can improve the effectiveness of MEAs by helping to address both environmental and economic problems, encouraging changes towards sustainable production and consumption patterns, and providing a basis for synergies among different MEAs.

**Q6. What advantages do CPCs have in facilitating MEA implementation?**

The key advantages of CPCs that would facilitate MEA implementation at the national level include:

- excellent rapport with local industries, governments and academia and other stakeholders;
- ability to adjust and adopt environmental strategies to suit the local conditions, the culture and manufacturing practices of their country; and
- support of national and inter-CPC networks of qualified professionals.

There are also CPC activities that can be applied to national MEA implementation such as awareness raising, technical assistance, training and demonstration projects, information dissemination, and policy advice.

Moreover, CPCs can address some cross-cutting elements in MEA implementation, including:



- technical and financial assistance to Parties or member states to meet their responsibilities;
- assessment and management of pollution;
- education and awareness;
- information exchange;
- strengthened participation of all stakeholders; and
- international partnerships.

CPCs can also help tackle several common challenges faced by MEAs, such as:

- improve synergies among MEAs;
- ensure adequate implementation and co-ordination of MEAs at national level;
- develop adequate mechanisms for compliance, enforcement, environmental and performance indicators to measure the effectiveness; and
- assist in obtaining adequate financial and human resources for implementing MEAs.

**Q7. Which MEAs have relevance to CPC work?**

CPCs can initially focus on MEAs that overlap with conventional Cleaner Production activities such as in-plant CP assessments, energy management, training workshops and policy advice.

Some examples are summarised in the table below.

MEA Cluster	Relevant MEAs	Examples of CP Activities
Chemicals & hazardous waste	<ul style="list-style-type: none"> <li>• Basel Convention</li> <li>• Stockholm Convention on POPs</li> <li>• Rotterdam Convention (PIC)</li> </ul>	<ul style="list-style-type: none"> <li>• Hazardous waste management</li> <li>• POPs management</li> <li>• Hazardous chemicals management</li> <li>• Technical support on environmentally sound management</li> <li>• Occupational safety management</li> <li>• Environmental management systems (ISO14001 certification)</li> <li>• National Implementation Plan support</li> </ul>
Atmosphere	<ul style="list-style-type: none"> <li>• UN Framework Convention on Climate Change (UNFCCC)</li> <li>• Montreal Protocol on Substances that Deplete the Ozone Layer</li> </ul>	<ul style="list-style-type: none"> <li>• Energy efficiency audits</li> <li>• Greenhouse gas inventory</li> <li>• Clean Development Mechanism (CDM) projects</li> <li>• Material substitution and process change</li> </ul>
Marine environment	<ul style="list-style-type: none"> <li>• Regional Seas Conventions/GPA</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental impact assessment</li> </ul>
Biodiversity	<ul style="list-style-type: none"> <li>• UN Convention on Biological Diversity (CBD)</li> <li>• Ramsar Convention on Wetlands</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental impact assessment (especially for the mining sector)</li> <li>• Policy guide and advice (e.g. support National Biodiversity Strategy and Action Plan)</li> </ul>
Land	<ul style="list-style-type: none"> <li>• UN Convention to Combat Desertification (CCD)</li> </ul>	<ul style="list-style-type: none"> <li>• Policy advice on inter-linkages between the three Rio Conventions (FCCC, CBD &amp; CCD)</li> <li>• National Action Program support and advice</li> </ul>

**Q8. What will MEAs bring to CPCs?**

Most CPCs are thinly staffed and need to work within the context of partners and networks. Targeting Cleaner Production on MEA will require CPCs to expand the partnerships to include MEA national focal points and other potential financial donors. Given CPCs’ need to ensure financial sustainability of the centre, broadening CPC service portfolio and client base is a logical step forward.

Various funding mechanisms have been and are in the process of being established to implement MEA activities. These are summarised in the table below:

CP-relevant MEA Clusters	Possible Funding Sources		
	Convention Budget	GEF Grants	Others
Chemicals & hazardous waste	<ul style="list-style-type: none"> <li>• General trust fund</li> </ul>	<ul style="list-style-type: none"> <li>• POPs</li> </ul>	<ul style="list-style-type: none"> <li>• Bilateral donors (including the European Commission)</li> </ul>
Atmosphere	<ul style="list-style-type: none"> <li>• Special climate change fund</li> <li>• Least developed countries fund</li> <li>• Adaptation fund</li> </ul>	<ul style="list-style-type: none"> <li>• Climate change</li> <li>• Ozone layer protection (for countries with economies in transition)</li> </ul>	<ul style="list-style-type: none"> <li>• Private investments</li> <li>• Bilateral donors (including the European Commission)</li> <li>• United Nations Foundation</li> <li>• Development banks</li> </ul>
Marine environment	<ul style="list-style-type: none"> <li>• General trust fund</li> </ul>	<ul style="list-style-type: none"> <li>• International waters</li> </ul>	<ul style="list-style-type: none"> <li>• Bilateral donors</li> </ul>
Biodiversity	<ul style="list-style-type: none"> <li>• Ramsar small grants fund</li> </ul>	<ul style="list-style-type: none"> <li>• Arid/semi-arid zone</li> <li>• Coastal/marine/freshwater</li> <li>• Forest/mountain ecosystems</li> <li>• Conservation and sustainable use</li> </ul>	<ul style="list-style-type: none"> <li>• Bilateral donors (including the European Commission)</li> <li>• UNESCO World Heritage Fund</li> <li>• Development banks</li> <li>• Private investments</li> </ul>
Land	<ul style="list-style-type: none"> <li>• Global mechanism (GM)</li> </ul>	<ul style="list-style-type: none"> <li>• Land degradation</li> <li>• Sustainable land management</li> </ul>	<ul style="list-style-type: none"> <li>• Bilateral donors (including the European Commission)</li> <li>• UNDP</li> </ul>



**Q9. What is the Kyoto Protocol?**

It is a Protocol to the UNFCCC adopted at the COP 3 in Kyoto, Japan in 1997. The Protocol sets binding commitments by 39 developed countries and economies in transition, listed in Annex B, to reduce their greenhouse gas (GHG) emissions by an average of 5.2 per cent on 1990 levels (the first commitment period, 2008 - 2012). The six GHGs being targeted are:

- Carbon dioxide (CO<sub>2</sub>) - sources include fossil fuel combustion, deforestation and agriculture
- Methane (CH<sub>4</sub>) - sources include agriculture, land use change, biomass burning and landfills
- Nitrous oxide (N<sub>2</sub>O) - sources include fossil fuel combustion, industrial and agriculture
- Hydrofluorocarbons (HFCs) - sources include industrial/manufacturing
- Perfluorocarbons (PFCs) - sources include industrial/manufacturing
- Sulphur hexafluoride (SF<sub>6</sub>) - sources include electricity transmission and manufacturing

**Q10. What is the difference between Annex I and Annex B parties?**

The UNFCCC divides countries in two main groups: Annex I parties that include the industrialised countries and countries with economies in transition (EIT) - the Russian Federation, the Baltic States and several other Central and Eastern European countries. All the others are called non-Annex I countries. The Kyoto Protocol strengthens the Convention by committing Annex I Parties to individual, legally binding targets to limit or reduce their GHG emissions. The individual targets for Annex I Parties are listed in the Kyoto Protocol's Annex B. In practice, Annex I of the Convention and Annex B of the Kyoto Protocol are used almost interchangeably. However, strictly speaking, it is the Annex I countries which can invest in CDM projects and non-Annex I countries can host CDM projects.

**Q11. What are the Kyoto mechanisms?**

Because mitigation costs would be high for Annex I parties, the Kyoto Protocol also establishes flexible mechanisms that can be used to achieve the objectives of the convention in a cost-effective and flexible way. These are Emissions Trading (ET), Joint Implementation (JI), and the Clean Development Mechanism (CDM).

The Clean Development Mechanism (CDM) and Joint Implementation (JI) differ with respect to the target nations. The CDM targets non-Annex I countries, while JI concerns only Annex I countries. A more important distinction arising from this issue is that CDM generates additional emissions reduction credits, as non-Annex I nations are not subject to emission caps, while JI only results in the exchange of allowances between two developed economies. In Activities Implemented Jointly (AIJ) no allowance banking is permitted, as AIJ represents a prototype or pilot phase of both CDM and JI. Consequently AIJ projects can be carried out either among industrialised countries or between Annex I and non-Annex I nations.

**Q12. How does the CDM concept work?**

Annex I countries that have ratified the Kyoto Protocol can invest in projects that both reduce GHGs and contribute to sustainable development in non-Annex I countries. A CDM project provides certified emissions reductions (CERs) to Annex I countries, which they can use to meet their GHG reduction commitments under the Kyoto Protocol. Article 12 of the Kyoto Protocol sets out three goals for the CDM: i) To help mitigate climate change; ii) To assist Annex I countries attain their emission reduction commitments, and iii) To assist developing countries in achieving sustainable development.



**Q13. What is a CDM project baseline?**

The baseline for a CDM project is the scenario used to show the trend of anthropogenic GHG emissions that would occur in the absence of the proposed CDM project. The baseline shows what would be the future GHG emissions without the CDM project intervention. Each CDM project has to develop its own baseline. Once a baseline methodology has been approved by the Executive Board, other projects can use it too. For small-scale projects, guidance is provided on standard baselines.

**Q14. What is an additionality in CDM projects?**

GHG emissions from a CDM project activity must be reduced below those that would have occurred in the absence of the project. It must be shown that the project would not have been implemented without the CDM. Without this “additionality” requirement, there is no guarantee that CDM projects will create incremental GHG emissions reductions equivalent to those that would have been made in Annex I countries, or play a role in the ultimate objective of stabilising atmospheric GHG concentrations.

**Q15. Who can participate in CDM projects and why?**

CDM creates opportunities for both developing and developed countries to take part. Developing countries can promote sustainable development through investment, and developed countries (Annex I) can meet Kyoto Protocol commitments at low costs.

CPCs can provide technical assistance and local expertise to all actors identified below.

Actor	Reason for Participation
Non-governmental organisations	Promote environment and development
Corporations	Offset emissions; Investment opportunity
Specialised companies (such as CPCs)	Commercial opportunity; Diffuse technology
Industry associations	New opportunities for members
Brokers	Commercial opportunity
Development banks	Promote sustainable development; Create new markets
Institutional investors	Portfolio diversification; Socially responsible investing

**Q16. What are the requirements to participate in the CDM projects?**

Participation in a CDM activity is possible only if participating countries are parties to the Kyoto Protocol. Countries also need to designate a National Authority for the CDM in order to participate, which should be situated so that it can effectively co-ordinate the agencies responsible for setting sustainability policies, environmental and investment regulations, and the organisations involved in CDM project development. In this context, developing countries need to define the sustainable development criteria. The success of CDM projects in developing countries will depend on the institutional and policy environment in which they operate.

Additional to the above two conditions, Annex I countries must have a system for tracking greenhouse gas emissions and sinks and a registry; must have submitted a GHG inventory, and be in compliance with its target. For more information see the Marrakech Accords.



**Q17. Who will administer CDM projects internationally and domestically?**

Internationally, the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP) shall have authority over and provide guidance to the CDM. The COP/MOP is autonomous from COP, and the Meeting of Parties establishes the CDM Executive Board at the international level. The first meeting of the COP/MOP will take place after the Kyoto Protocol enters into force.

Domestically, Parties participating in the CDM establish the CDM Designated National Authority for approving CDM projects. Furthermore, a Designated Operational Entity – DOE, which is either a domestic legal entity or an international organisation accredited and designated, on a provisional basis until confirmed by the COP/MOP. The Executive Board (EB) has two key functions: to validate and subsequently to request registration of a proposed CDM project activity, which will be considered valid after 8 weeks if no request for review was made; and, to verify emission reduction of a registered CDM project activity, certifying as appropriate and requesting the Board to issue Certified Emission Reductions accordingly.

**Q18. How will the global CDM market develop?**

The future of the global market will depend largely on the demand for CDM projects from companies and countries in the north. Without the United States participating in the Kyoto CDM market (although it may set up a parallel market on its own) the demand is likely to be substantially constrained, reducing capital available for the development of these projects.

Furthermore, developing countries that are looking to the CDM market to promote both inward investments and sustainable development projects, will judge the market not just by how many CDM projects it is able to generate but also by how many countries have been able to benefit. If only a few developing countries benefit, then it may be difficult for the rest of the developing countries to agree to further extensions of the CDM concept in future commitment periods.

**Q19. Are there any risks involved in CDM projects?**

CDM projects are essentially similar to other conventional project investments. The major difference between conventional projects and CDM projects is that with CDM projects there are conditions of GHG emission reduction and sustainable development. As such investments risks are basically the same one would face in other project investments. However, the additional risk in CDM projects would be elements that may result in absence of GHG emission reduction, and hence non-issuance of Certified Emission Reductions (CERs).

**Q20. Are there any special provisions for small-scale CDM projects?**

According to modalities and procedures for the CDM, three types of small-scale CDM projects are possible. For the first two, there is a maximum size of the activity that reduces emissions, but for the third type, there is a maximum on the total emission from the project at the end of the project activity. The three types of small-scale CDM projects are:

- Type I: Renewable energy project activities with a maximum output capacity equivalent of up to 15 MW (or an appropriate equivalent);
- Type II: Energy efficiency improvement project activities which reduce energy consumption, on the supply and/or demand side, by up to the equivalent of 15 GWh per year; or
- Type III: Other project activities that both reduce anthropogenic emissions by sources and directly emit less than 15 thousand tonnes (kt) of carbon dioxide equivalent annually.

When the CDM starts operating, no eligible project activity categories exist except for the small-scale CDM.

Project Types	Project Activity Categories	Illustrative Project Activities
<b>Type I: Renewable energy projects</b>	A. Electricity generated by the user	<ul style="list-style-type: none"> <li>• Photovoltaics, off grid (solar home/public systems)</li> <li>• Solar water pumping / desalination</li> <li>• Small hydro / wind power</li> <li>• Wind battery chargers</li> <li>• Oil-plants (jatropha, biodiesel etc.) fuelled generation</li> </ul>
	B. Mechanical energy for the user	<ul style="list-style-type: none"> <li>• Water mills</li> <li>• Wind-powered mechanical water pumps</li> </ul>
	C. Thermal energy for the user	<ul style="list-style-type: none"> <li>• Solar water heating / dryers / cookers</li> <li>• Farm / enterprise scale biogas</li> <li>• Improved cooking stoves</li> <li>• Biomass combustion for water heating / space heating &amp; drying</li> <li>• Biomass fueled cogeneration</li> </ul>
	D. Renewable electricity generation for a grid	<ul style="list-style-type: none"> <li>• Hydro / wave / tidal power</li> <li>• Turbine upgrading / replacement, etc.</li> <li>• Large photovoltaics / solar thermal power</li> <li>• Wind / diesel units</li> <li>• Large off / on shore wind turbine</li> <li>• Large biogas / landfill gas plants</li> <li>• Biomass gasification / fuelled cogeneration</li> <li>• Waste fuelled power / landfill gas plants</li> <li>• Geothermal power</li> </ul>
<b>Type II: Energy efficiency improvement projects</b>	A. Supply side energy efficiency improvements - transmission and distribution	<ul style="list-style-type: none"> <li>• Electricity transmission and distribution, efficiency improvement</li> <li>• Heat transmission and distribution, efficiency improvement</li> </ul>
	B. Supply side energy efficiency improvements – generation	<ul style="list-style-type: none"> <li>• Efficiency improvement at power plants and district heating plants</li> </ul>
	C. Demand-side energy efficiency programmes for specific technologies (at many sites)	<ul style="list-style-type: none"> <li>• Higher efficiency lighting / refrigerators / freezers / fans / air conditioning / electric motors</li> <li>• Other improved household electrical appliances</li> <li>• Other improved service electrical equipments</li> <li>• Other improved industrial electrical equipments</li> </ul>
	D. Energy efficiency and fuel switching measures for industrial	<ul style="list-style-type: none"> <li>• Energy efficiency measures (motors, pumps, etc)</li> <li>• Fuel switching for energy efficiency</li> <li>• More efficient industrial processes (steel, paper, tobacco, etc.)</li> </ul>
	E. Energy efficiency and fuel switching measures for buildings	<ul style="list-style-type: none"> <li>• Energy efficiency measures (appliances, better insulation, etc.)</li> <li>• Fuel switching for energy efficiency</li> </ul>
<b>Type III: Other project activities</b>	A. Agriculture (no methodologies yet available)	<ul style="list-style-type: none"> <li>• Reduction of enteric fermentation (CH<sub>4</sub>)</li> <li>• Manure management (CH<sub>4</sub> &amp; N<sub>2</sub>O)</li> <li>• Water management in rice cultivation (CH<sub>4</sub>)</li> <li>• Improved fertilizer usage (N<sub>2</sub>O)</li> </ul>
	B. Switching fossil fuels	<ul style="list-style-type: none"> <li>• Fuel switching as primary aim (energy efficiency can be included)</li> </ul>
	C. Emission reductions by low-GHG vehicles	<ul style="list-style-type: none"> <li>• A number of vehicles is replaced with lower emission vehicles</li> </ul>
	D. Methane recovery and avoidance	<ul style="list-style-type: none"> <li>• Coalbed methane recovery</li> <li>• Capture and flaring of landfill gas</li> </ul>



## ROMANIA: National Research and Development Institute for Environmental Protection

<b>Brief description of centre/organisation:</b>	The centre carries out research studies, provides environmental expertise, assistance and organises professional training courses for the personnel in the environmental protection field
<b>Project title:</b>	Enabling Activities to Facilitate Early Action in the Implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs) in Romania
<b>MEA linkage:</b>	Stockholm Convention on POPs
<b>Brief description of project activity:</b>	<p>The objective of the project is to assist Romania to fulfill its obligation in the Stockholm Convention and prepare and endorse its National Implementation Plan (NIP) on Persistent Organic Pollutants (POPs).</p> <p>Project steps include:</p> <ul style="list-style-type: none"> <li>• determination of coordinating mechanisms and organization of process of NIP development.</li> <li>• establishment of a POPs inventory and assessment of national infrastructure and capacity.</li> <li>• priority-setting and determination of objectives.</li> <li>• formulation of a prioritised and monetary estimated NIP and specific Action Plan on POPs.</li> <li>• endorsement of the NIP by stakeholders.</li> </ul> <p>By implementation the Action Plan POPs production, use, import and export will be reduce and /or eliminated; most actions will take up years and will be continuing with the actions related to reduction of unintentional release of POPs.</p>
<b>Project duration:</b>	1.6 years
<b>Project participants:</b>	The National Research and Development Institute for Environment Protection ICIM Bucharest; Polytechnical university Bucharest - UPB Research Centre for Energy and Environment Protection; NGO- Association of Environmental Experts
<b>Total project costs:</b>	US\$ 380,000.
<b>Contact :</b>	<p>Ms. Maria Teodorescu, Director          National R&amp;D Institute for Industrial Ecology          Bucharest, Panduri Road N°90-92,          Romania          Tel: +40 21 410 6716          Email : maurat1950@yahoo.com</p>

## TRINIDAD &amp; TOBAGO: Basel Caribbean Regional Centre (BCRC)

Brief description of centre/organisation:	The BCRC is hosted at the Caribbean Industrial Research Institute (CARIRI) in Trinidad and Tobago. The centre is part of a system of regional centres for training and technology transfer established to assist in the implementation of the Basel Convention. The Government of Trinidad and Tobago established CARIRI in 1970 with assistance from the United Nations Development Programme (UNDP) and the United Nations Industrial Development Organisation (UNIDO). The Institute is wholly owned by the Government of Trinidad and Tobago and provides testing and technological services to private and public sector organisations locally and regionally. The Centre provides support to 12 party states including Cuba and the Dominican Republic.
Project title:	Preparation of regional strategy for the Environmentally Sound Management of Used Lead Acid Batteries (ULABs) in Central America, Colombia, Venezuela and the Caribbean island states
MEA linkage:	Basel Convention
Brief description of project activity:	<p>Using lead recycling technology, this project seeks to reduce the contamination of the environment by the ULABs by recycling. Due to the size of the countries in the region and the quantities produced it is a challenge to ensure the economic recycling of these batteries.</p> <p>General project objectives are:</p> <ul style="list-style-type: none"> <li>• to launch a multi-stakeholder consultative process in order to prepare a strategy aimed at achieving the environmentally sound management of used lead acid batteries in Central America, Colombia, Venezuela and the Caribbean island states in a period of few years; and</li> <li>• to enhance regional networking on the issue of the management of used lead acid batteries in Central America, Colombia, Venezuela and the Caribbean island states through the Regional Centres in Trinidad (CARIRI) and El Salvador (CRCB-CAM), with the aim of sharing experiences, information, methodologies, proven policies and initiatives and raising the awareness of decision-makers from national Governments and other stakeholders.</li> </ul>
Project duration:	18 months
Project participants:	<p><i>Geographical scope:</i> Belize, Colombia, Costa Rica, Cuba, Antigua &amp; Bermuda, Bahamas, Barbados, Dominica, Dominican Republic, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, St Kitts &amp; Nevis, St Lucia, St Vincent &amp; The Grenadines, Trinidad &amp; Tobago, Venezuela.</p> <p><i>Cooperating agencies:</i> The Basel Convention Regional Centres and parties to the Basel Convention in the region; Secretariat of the Cartagena Convention; UNCTAD; Political Regional Organisations (SICA, CARICOM) University of West Indies (UWI), local non-governmental organisations; International Lead Management Centre (ILMC), the lead recycling industry in the region.</p>
Total project costs:	US\$122,521 (Sources: Secretariat of the Basel Convention; UNEP-CAR Jamaica; El Salvador- BCRC and MARN Venezuela)
Contact:	<p>Dr. Heather-Ann Okuns  CARIRI, Macoya Industrial, Estate Tunapuna, Trinidad  Tel: +868 662 7161 or +868 662 2855  Email: hokuns@carib-link.net</p>

**CHILE: Fundación Chile****Brief description of centre/organisation:**

Fundación Chile is a private, non-profit institution, created in 1976 by the Chilean Government and ITT Corporation of the United States. Its mission is to increase the competitiveness of human resources and production and service sectors by promoting and developing for the country high impact innovations, technology transfer and management.

**Project title:**

Environmental Risks related to Polluted Sites

**MEA linkage:**

Hazardous waste and chemicals cluster

**Brief description of project activity:**

The goal of the project was to collect, set and adapt methodologies in order to assess environmental risks related to polluted sites.

**Project outcomes include:**

- a general methodology for assessing environmental risks on polluted sites;
- a management and analysis program for spreading and transferring knowledge about risks on polluted sites; and
- an International Standards Compendium concerning to risk analysis on polluted sites.

**Project duration:**

2 years

**Project participants:**

Fundación Chile

**Total project costs:**

US\$ 750,000 (Source: Chilean Economic Development Agency)

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**COSTA RICA: National Cleaner Production Centre**

<b>Brief description of centre/organisation:</b>	A private non-profit organization, which promotes the concept of cleaner production and preventive initiatives in the private sector, the public institutions, academia and consultancy groups.
<b>Project title:</b>	Cleaner Production In-Plant Assessment in the Electroplating Industry: Equipos El Prado S.A. The company specializes in transportation of fruits and goods mainly within agricultural activities.
<b>MEA linkage:</b>	Basel Convention. Management of Hazardous Materials at the Enterprise Level
<b>Brief description of project activity:</b>	<p>The project focus on the environmental performance of the galvanizing production line and the reduction of the amounts of chemicals involved.</p> <p>Project steps include:</p> <ul style="list-style-type: none"> <li>• An In-Plant Assessment to determine the initiatives with economical and environmental benefits for the enterprise.</li> <li>• The process included a quick scan, a material and energy balance, option generation, action plan.</li> <li>• A team was formed to execute the action plan and trained in the cleaner production methodology.</li> </ul> <p>Upon implementation of the options the enterprise reduced the consumption of chemicals by 50% including cyanides (Y33), reduced the electricity consumption by 30%, eliminated troublesome cooling oil and also eliminated the use of Chromium VI (Y21) in the finishing step of the pieces. Improvements in the storage conditions and occupational health and safety were also accomplished.</p>
<b>Project duration:</b>	1 year
<b>Project participants:</b>	The National Cleaner Production Centre consultants as well as the reference centre experts from Fachschule Beider Basel (FHBB) and the Institute for Environmental Sciences (IfU). The companies personnel which is a key player in the implementation of cleaner production and obtaining results.
<b>Total project costs:</b>	US\$ 4,000
<b>Contact :</b>	<p>Mr. Sergio Musmanni, Director  National Cleaner Production Centre  Co/Chamber of Industries of Costa Rica  P.O Box 10.003-1000 San José  Costa Rica  Tel: +506 281 0006  Email : smusmanni@cnpml.or.cr or cnpml@cicr.com</p>



### On MEAs

- UNEP's Division of Environmental Conventions: <http://www.unep.org/dec/>
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal: <http://www.basel.int>
- Stockholm Convention on Persistent Organic Pollutants (POPs): <http://www.pops.int/>
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC): <http://www.pic.int>
- UN Framework Convention on Climate Change (UNFCCC): <http://unfccc.int>
- CDM information and Guidebook 2nd Edition (UNEP, 2004) developed for UNEP Project 'Capacity Development for CDM': [www.cd4cdm.org](http://www.cd4cdm.org)
- The Marrakesh Ministerial Declaration and the Marrakesh Accords: <http://unfccc.int/resource/docs/cop7/13a01.pdf>
- Montreal Protocol on Substances that Deplete the Ozone Layer and Vienna Convention: <http://www.unep.ch/ozone/index.asp>
- Regional Seas Conventions and Global Program of Action for the Protection of the Marine Environment from Land-Based Activities (GPA): <http://www.unep.ch/seas/index.html>
- UN Convention on Biological Diversity (CBD): [www.biodiv.org](http://www.biodiv.org)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): <http://www.cites.org>
- Convention on the Conservation of Migratory Species of Wild Animals (CMS or Bonn Convention): <http://www.cms.int/>
- Ramsar Convention on Wetlands: <http://www.ramsar.org>
- UN Convention to Combat Desertification (CCD): <http://www.unccd.int/>
- Inter-linkages Among Multilateral Environmental Agreements (report): <http://www.unu.edu/interlink/papers/WG2/Dodds.doc>

### On Sustainable Production and Consumption

- UNEP Division of Technology, Industry and Economics: <http://www.uneptie.org/pc/home.htm>
- The Internet Gateway for Cleaner Production, Pollution Prevention and Sustainable Business: <http://www.cleanerproduction.com/>
- Wuppertal Institute for Climate, Environment, Energy - Research Group on Sustainable Production and Consumption: <http://www.wupperinst.org/Sites/Divisions/rg4.html>
- Instruments for Change - Making Production and Consumption More Sustainable: <http://www.iisd.org/susprod/>
- Lowell Centre for Sustainable Production: <http://sustainableproduction.org/home.shtml>
- Öko-Institut Sustainable Production and Consumption: [http://www.oeko.de/sustainp\\_engl.htm](http://www.oeko.de/sustainp_engl.htm)
- International Cleaner Production Co-operative: <http://es.epa.gov/cooperative/international/>
- Envirowise - United Kingdom's main CP site: <http://www.envirowise.gov.uk/envirowisev3.nsf>
- The Centre of Excellence in Cleaner Production (Australia): <http://cleanerproduction.curtin.edu.au/>

## ENVIRONMENTAL AGREEMENTS AND CLEANER PRODUCTION

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## **About the UNEP Division of Technology, Industry and Economics**

The UNEP Division of Technology, Industry and Economics (DTIE) helps governments, local authorities and decision-makers in business and industry to develop and implement policies and practices focusing on sustainable development.

The Division works to promote:

- > sustainable consumption and production,
- > the efficient use of renewable energy,
- > adequate management of chemicals,
- > the integration of environmental costs in development policies.

### **The Office of the Director, located in Paris, coordinates activities through:**

- > **The International Environmental Technology Centre** - IETC (Osaka, Shiga), which implements integrated waste, water and disaster management programmes, focusing in particular on Asia.
- > **Production and Consumption** (Paris), which promotes sustainable consumption and production patterns as a contribution to human development through global markets.
- > **Chemicals** (Geneva), which catalyzes global actions to bring about the sound management of chemicals and the improvement of chemical safety worldwide.
- > **Energy** (Paris), which fosters energy and transport policies for sustainable development and encourages investment in renewable energy and energy efficiency.
- > **OzonAction** (Paris), which supports the phase-out of ozone depleting substances in developing countries and countries with economies in transition to ensure implementation of the Montreal Protocol.
- > **Economics and Trade** (Geneva), which helps countries to integrate environmental considerations into economic and trade policies, and works with the finance sector to incorporate sustainable development policies.

*UNEP DTIE activities focus on raising awareness,  
improving the transfer of knowledge and information,  
fostering technological cooperation and partnerships, and  
implementing international conventions and agreements.*

For more information,  
see **[www.unep.fr](http://www.unep.fr)**



*This booklet summarises basic questions and answers on how the preventive environmental management strategy - cleaner production – can be applied to assist in the implementation of environmental agreements.*

*The information presented within focuses on the Kyoto Protocol and its Clean Development Mechanism (CDM) and targets the needs of UNIDO UNEP National Cleaner Production Centres – who work with industries to build environmental capacity in developing countries throughout the world. It is also relevant to other similar types of organizations such as industry associations, consultants, NGOs or academic institutions who work with companies on environmental issues.*

*The booklet also provides country case studies undertaken by the centres that highlight the interface between cleaner production and environmental agreements. Some of the resources used in the preparation of this booklet are listed in section “Where to go for more information”.*

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