



# UNEP' s 6th International High-level Seminar on Cleaner Production

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## BACKGROUND-PAPER

Title **How to finance cleaner production?**

Objective The objective of this paper is to convey to the participants that:

- Despite mounting awareness of the merits of CP within the business community and wider civil society, financing of CP investments remains problematic;
- There are examples of initiatives and mechanisms to overcome barriers to financing CP investments; and
- It is in the interest of the policy makers and the business community to take measures geared towards integrating CP into decision making and management processes.

Coverage **1. Introduction**

Developing countries and countries in transition face an opportunity to avoid the costly waste management solutions that have burdened the industrialised world. Whether countries seize this opportunity depend greatly on the types of technologies they choose to adopt for new and retrofit investments, and on the sufficient availability of appropriate financing.

Despite advantages of the cleaner production (CP) strategy, securing investment funds is perceived as a major constraint in making it widely practiced. Financial institutions and other sources of private sector funding follow a well defined due diligence process when evaluating loan and investment proposals, consisting of verifying the technical, financial and legal aspects of the project, evaluating the creditworthiness of the borrower, and assessing the different risks involved. Environmental risks are often still undervalued in this process and many environmental management costs are hidden in the company overhead accounts.

To understand the reasons for this and to develop instruments to alleviate constraints, UNEP/DTIE has launched the project “Strategies and mechanisms for promoting cleaner production investments in developing countries”, financed under a trust fund from Norway. As part of the project, UNEP/DTIE has studied the experience of eight developing countries and countries in transition and reviewed how selected financial institutions in the developed world address environmental issues, particularly related to CP. The countries studied include Guatemala, India, Lithuania, Mexico, Nicaragua, Tanzania, Vietnam and Zimbabwe. A full report of the study will be published in November 2000.

The *overarching conclusions of the study*, applicable to all pilot countries, can be grouped under three main headings:

*i. Language*

The level of response to the global survey was exceedingly low. Language for ‘cleaner production’ has not been embedded in the financial services industry in the same way as ‘environmental management’. There is a lack of clear understanding of the CP concept and misunderstandings or misinterpretations regarding its purpose. This language barrier was also evidenced at the national level where there were clear differences in the ‘boundary conditions’ for CP investment descriptions. The flexibility of interpretation is to be encouraged, it promotes innovation, extends the boundaries of environmental management to sustainable development policies and practices, and engages a wider level of societal input than would otherwise be the case.

*ii. Time scales*

The process of initiating a CP assessment of a production process or potential design change is generally quite swift. Ensuing recommendations requiring little capital investment are normally implemented quickly. However, in cases where the CP concept is integrated into the capital budgeting process, a much longer time frame is required. Empirical evidence confirms that the period between loan agreement and disbursement is a significant barrier.

*iii. Size of investments*

The danger is that where the CP component of an investment is justified separately, it is seen as an additional rather than an integral part of the project. This has the consequence of isolating CP investment as a hybrid rather than a mainstream embedded issue. Clearly best results can be achieved, if the process changes incorporating CP investment is valued as a whole.

In addition, each of the individual *country sections* of the study report incorporates national conclusions, based on the CP project analysis and financial institutions review, together with relevant recommendations. In the following, some interesting findings relevant to one or several of the studied countries is provided.

- In many developing countries bank loans are considered unattractive due to high interest rates and unattractive terms of loans. Most companies require low interest, long term loans for environmental projects. Furthermore, the procedure for borrowing money from commercial banks is often considered complicated and costly.
- In many banks the due diligence process considers mainly the financial aspect of loan applications without paying much heed to technical ones. However, some countries are gradually beginning to translate environmental considerations and sustainable development into financial markets. Although many financial institutions are familiar with environmental opportunities, environmental investments remain small. Forthcoming environmental funding programmes (such as the World Bank Carbon Fund) are seen as new opportunities.
- Current efforts in promoting and implementing CP mostly concentrate on developing and adapting technology to existing production plants. In the future, the focus will eventually involve ‘technological leaps’ or technique transfer. This will require a shift to fundamental changes in the production plant, composition of raw materials and

intermediary products, product design, etc. As this transition takes place, the size and magnitude of the CP projects will begin to reflect the change that is taking place. Consequently, this will have significant implications to the financing requirements for industry.

- So far, government policies have focused mainly on the tools for enforcing and extending compliance. The challenge for the governments will be to create a framework that provides incentives for companies to move beyond compliance and to take up CP as an efficiency measure.
- Policies introduced in some countries have highlighted the importance of environmental technologies with tax breaks on the importation and use of contamination-control equipment. Equally, the establishment of a similar programme focusing predominately on CP technologies and techniques could highlight the advantages over end-of-pipe.
- The ability to purchase appropriate machinery and equipment to support the CP concept has proven difficult for businesses.
- In some countries, the greatest potential for CP is the inflow of foreign direct investment (FDI) which can stimulate further new investment through downstream or upstream production. Hence FDI can contribute to capital formation and job creation.

This study has highlighted some *key recommendations* for the promoting the adoption of cleaner production investments world-wide. These include:

- The need for governments to signal change with regard to national strategies that embrace cleaner production
- The need for industry to take up the challenge of creating an on-going demand for cleaner production measures that will spur continued progress
- The need for educationalists to integrate such thinking into the formal education programme
- The need for the financial services sector to identify cleaner production as an investment opportunity through financial innovation.

In doing so, the authors of the study believe that the long-term goal will be to pursue the introduction of cleaner production to every industry as a way of triggering a world-wide transformation of industrial practice and philosophy.

## **2. Stakeholders**

Another survey carried out by UNEP/DTIE collecting data for a “who is who compendium in CP financing” in January-March 2000 revealed that new initiatives are sprouting in promoting investments in preventative approaches, waste minimisation, cleaner production and related activities. This is happening particularly in governmental and quasi-governmental institutions. Some non-governmental organisations and consulting companies have also developed services addressing this issue. Financial institutions lag behind. Very few commercial banks perceive the cleaner production strategy adopted by a loan applicant as a favourable criterion for approving funds or assessing risks

The number of stakeholders in activities related to the promotion of CP investment financing goes well beyond those that are customarily linked to the dialogue on CP proper. Instead of providing financing, some stakeholders have an important role in raising awareness, providing technical advice, disseminating information, training etc. Potential

stakeholders will include:

- International Financial Institutions (private and public);
- Multilateral Financial Institutions (World Bank, IFC, regional development banks, national development finance institutions in OECD countries, etc.);
- Export Credit Agencies;
- Foundations;
- Media; in their role as the representatives of civil society, as well as information disseminators
- Ministries of Economy and Finance;
- Chambers of Industry and other representatives of the business community;
- CP service providers; and
- Academic and training institutions with curricula on financial analysis, business planning, accounting and engineering.

### **3. Possible responses**

The following strategies and responses could be considered for these important groups of stakeholders:

- Increased capacity in public bodies to develop/foster environmental framework conditions (law, etc.) and their enforcement;
- Increase capacity of technical assistance providers (CP Centres, consulting companies, etc.) and CP assessors in the preparation of creditworthy loan applications;
- Improve awareness of new tools and instruments to financial institutions in developing countries on the assessment of the economic merits of CP options;
- Capacity of decision makers to integrate CP into their company strategies in order to maximise internal rates of return of investments in production and infrastructure facilities;
- Mainstreaming of environmental investments into a bank's portfolio (adopting CP as a viable investment field by loan officers);
- Promotion of credit schemes customised to CP investments;
- Active match-making between potential CP investors and credit lines, trust funds, etc. dedicated for pollution prevention or other environmentally sustainable projects and initiatives; and
- Global networking and advocacy with multinational financing institutions to increase emphasis on the preventative approach in their commitment for and implementation of environmentally sustainable financing schemes.

The possible strategies and responses have been debated in various CP-related fora during recent years. CP financing has emerged as a topic of most CP regional roundtables held in Asia, Europe, the Americas and most recently in the Mediterranean region and Africa. National CP roundtables have also introduced this element to their agendas.

### **4. Selected responses to date**

The UNEP Financial Institutions Initiative on the Environment was founded in 1992 when the "Statement by Banks on the Environment and Sustainable Development" was signed by some 30 banks following the Earth Summit in Rio. By August 2000 over 180 financial institutions were signatories. The Initiative promotes the integration of environmental considerations into all aspects of the financial sector's or individual companies' operations

and services through building awareness, dialogue and understanding and by fostering private sector investment in environmentally sound technologies and services.

The number of dedicated revolving funds and credit lines for CP investment has increased considerably during the last two years. Several initiatives by the World Bank, Asian Development Bank, Nordic Environment Finance Corporation (NEFCO), Inter-American Development Bank, EBRD, KfW of Germany, etc. have been launched or are in the process of being formulated.

While such initiatives are an effective way of promoting the adoption of the CP strategy in enterprises (combining CP assessments with a possibility of funding some of the required investments), the major challenge ahead is to mainstream and integrate CP into the due diligence process, company management strategies, government policies and university curricula. This paradigm shift means that the responsibility for environmental management in an enterprise (including application of CP as a strategy) shifts from environmental specialists to the CEO and the entire company management.

Issues for Discussion

### 1. Definition of a cleaner production investment

An all-embracing definition may not be possible and perhaps not even necessary. It is, however, important to arrive at a commonly accepted overall definition which can ensure that different stakeholders speak the same language. Such a definition can also guide various institutions launching their own initiatives in setting their own criteria for assessing what is an investment in CP and what in new technology in general.

For the purpose of starting a dialogue with stakeholders, UNEP/DTIE proposed the following definition in a background note prepared for a web discussion in August 2000:

A cleaner production investment is *a management decision to invest in an industrial project, modification or upgrading (retrofit and new) which:*

- reduces the use of materials, water and energy;
- improves environmental performance;
- reduces risk liabilities;
- is NOT an additional cost related to environmental performance; and
- meets acceptable financial criteria

This proposal has attracted several useful comments. An example of a detailed and focussed definition from the Tellus Institute on a CP investment project reads as follows:

- i. A CP investment is *a potential business investment project* that reduces the use of raw materials/natural resources (materials, water, energy), especially:
  - hazardous/toxic materials,
  - non-renewable and locally scarce resources
  - resources that are likely to have negative health and other impacts on humans and ecosystems during production or delivery
  - reduces or prevents waste generation/pollutant emissions at the source OR via recycling/reuse (i.e. NOT via waste treatment or control)
  - reduces or eliminates the potential health and other risks to humans and ecosystems of

- the waste or pollution generated
  - takes into account trade-offs among the above types of CP benefits
- ii. A CP investment can include:
- the redesign of existing products and services
  - the modification/upgrade of existing equipment and processes
  - the acquisition of new equipment, processes and product lines
- iii. A CP investment will often be profitable due to reduced raw materials purchase and processing as well as waste management costs and has often related business and financial benefits such as:
- increased production throughput and product quality
  - reduced liability and insurance costs
  - improved company and product image

When we talk about an investment (including CP), we should, however, clearly distinguish it from a project. A project is something that someone wishes to invest in, but it is not an investment until an investor actually decides to provide the funds. Also if a project is funded by a donor who does not expect a financial reward or its money back, we are not talking about an investment in its terms or records.

The two approaches presented above will need to be combined into a lead statement and possibly some more detailed selection criteria and qualifiers. While doing this, we should bear in mind that financial criteria are of paramount importance to financial institutions who are the main stakeholders in the promotion of CP investments.

## **2. Language**

There is clear need to make the language for ‘cleaner production’ clearer and as embedded in the financial services industry in the same way as ‘environmental management’ is. Multilateral financial institutions and the signatories of the UNEP Statement by Financial Institutions on the Environment and Sustainable Development can play an important role in leading this process. Many of the activities addressed under the issues raised below will also contribute to this. The participants at the CP6 parallel session are encouraged to provide suggestions and ideas on how to accelerate the process.

## **3. Integration/mainstreaming**

A key to wider adoption of the CP strategy is its integration in overall company strategies, in the due diligence process for investment appraisal and the curricula of academic institutions educating process engineers, financial analysts and accountants. The UNEP/DTIE project “Strategies and mechanisms for promoting CP investments in developing countries” is in the process of developing training courses which will, i.a., include suggested tools and instruments in integrating CP into the due diligence process. Are there other examples of training or tools?

Based on real-life experience or academic research, what are examples of enabling factors to integrate CP into policies, strategies and mechanisms related to financial analysis and investment decisions?

## **4. Engaging accountants**

Within the framework of work carried out by the United Nations Division for Sustainable Development, a paper is currently being prepared by the Tellus Institute in Boston with assistance from Joanneum Research in Austria on policies for improving the role of government in promoting environmental managerial accounting (EMA). The paper will present case studies of past and ongoing EMA policy programmes and initiatives, discuss the challenges and successes of those programmes, identify policy pathways that may have not yet been tested, and make some general recommendations for next steps. A full draft of the policy paper will be presented at an expert group meeting in Bonn in November 2000 and the final version will be made available to UN Committee on Sustainable Development in 2001.

The joint UNCTAD UNEP project in the area of environmental accounting has outlined a governance structure within which the value of a CP investment may be properly described. This model has been accepted in a number of jurisdictions and should be further promoted by member governments. UNCTAD has also done considerable work on environmental performance indicators. This has catalysed change in a number of areas of the financial services sector.

The UNEP/DTIE project on CP financing in developing countries is in the process of designing training programmes on CP as profitable investments and the CP investment process. These programme also target accountants and educational institutions training accountants. Are there other examples?

## **5. Role of Export Credit Agencies**

Export Credit Agencies (ECAs) are a very important source of project financing from developed to developing countries. ECAs have embarked on a dialogue as to how to consider environmental aspects in their operations with other partners such as the OECD and multinational financial institutions. How to engage ECAs in promoting CP as a preferred strategy in business?

## **6. Role of bodies controlling stock exchange listing requirements**

Experience shows that in developing countries and in economies in transition the pre-privatisation phase is the time frame when there is greatest opportunity to influence future investment patterns. The bodies that control stock exchange listing requirements have an influencing role that can be brought to bear for the benefit of CP investments. For example, the stock exchange of Thailand already requires all companies seeking a listing to report explicitly on their environmental impacts and environment improvement programmes. Introducing similar pre-qualifications will raise awareness of the different investment profiles between those companies that embrace CP technology and those that do not. For indigenous stock exchanges this may provide an opportunity to float more secure, lower risk, and more long term focused investments. This improves the stability and reduces volatility of a stock exchange's listed companies.

## **7. Policies and incentives**

Governments can introduce policies and instruments (import tax reductions, special funds and credit windows for CP, pricing of water and energy, etc.) that promote CP solutions in the selection of technology for retrofits and new investment. Policies that prevent pollution tend to be more effective and cheaper in the long term than policies that induce the treatment and disposal of wastes which could be avoided. The development and

enforcement of such policies will require the participation of a number of ministries and agencies, such as the ministry of finance, customs and tax departments, investment promotion and licensing authorities, industrial promotion and control agencies, etc.

At the international level, mechanisms to transfer intellectual property rights to developing country agents are needed in order to stimulate local production and commercialisation of CP. Such mechanisms need not be complicated inter-governmental constructions, but instead rely on private arrangements such as multinational joint ventures. Developing country agents can also make greater use of pollution prevention trade promotion tools to support investment in CP. This could include the proactive use of eco-labelling and participation in international standards programmes (e.g. ISO 14000).

Also at the international policy level, developed countries need to eliminate escalating tariffs which prevent developing countries from moving up the production chain away from raw materials and commodities towards products with substantial added value. This would allow developing country agents to internalise environmental costs into export production.

#### **8. Broaden the number of stakeholders**

The chapter on stakeholders above provides a suggested list which may require expansion or revision. Which stakeholder groups should be targeted to achieve the most effective response and rapid adoption of the preventative strategy in making decisions to finance investments in production and service facilities.

#### **9. Interrelations between CP investments and the economy**

The contribution of CP investments to the economy at the micro and macro levels has been studied very little. As this is a very interesting and challenging area of work, CP6 may wish to call upon relevant international and national economic research and statistical institutions and ministries to initiate research activities targetting these issues.

- Outcomes
1. The session will provide feedback on the questions posed above.
  2. The session will provide “next steps” recommendations for the involved stakeholders (private and public financial institutions, export credit agencies, ministries of economy and finance, chambers of industry and other representatives of the business community, CP service providers, academic and training institutions with curricula on financial analysis, business planning, accounting or engineering, selected NGOs, as well as media).
  3. The session will identify concrete activities that participants commit to undertake in the following year.