

**MULTILATERAL INVESTMENT FUND  
PROJECT ABSTRACT**

**MEXICO**

**DECEMBER 3, 2008**

**I. BASIC PROJECT DATA**

**Project name:** Expansion of Cleaner Production Support Centers

**Project number:** TC-02-02-01-2

**Team members:** Daniel Shepherd (MIF); Sergio Ardila (RE2/EN2); and Alberto Bucardo (COF/CME).

**Executing agency:** Centro Mexicano para la Producción más Limpia (CMPL)

**Beneficiaries:** Small and medium enterprises, consultants, and service providers.

**Financing plan:** MIF—Small Enterprise Development

Facility:	US\$ 900,000 (50%)
Local Counterpart:	<u>US\$ 900,000 (50%)</u>
Total:	US\$1,800,000

**Application Date:** December 2001

**II. BACKGROUND**

**A. Industry and Pollution Issues in Mexico**

- 2.1 In Mexico, industry accounts for approximately 26.8% of GDP and generates 28.1% of the total employment in the country. Manufacturing dominates industrial production, accounting for 20.8% of GDP, followed by construction, with 4.8%. Manufacturing is not only the most important productive sector, but is also the main source of exports, accounting for 87.3% of total exports in 2000.<sup>1</sup> The more prominent sectors in Mexico comprise the following percentages of the industrial related GDP: metal, machinery and equipment (21.5%); food, beverages and tobacco (19.4%); chemicals (14.6%); petrochemicals and plastics (12.2%).<sup>2</sup> The industrial sector consists of approximately 300,000 companies, of which large companies are only around 1% of the total number of companies, with medium size firms making up an additional 1.5%, and micro and small enterprises comprising the remaining 97.5%.<sup>3</sup> Within the industrial sector, micro, small and medium enterprises are principally dedicated to the production of textiles, clothes, plastics, shoes, leather, wood products, food products, glass and some metal products.
- 2.2 The industrial sector generates a large amount of by-products, some of which are potentially harmful, but due to inadequate infrastructure, a lack of economic capacity and environmental enforcement, these wastes are often times simply dumped or discarded into municipal drainage systems, rivers and other waterways. According to the Federal Office for Materials, Wastes and Harmful Activities (*Dirección General de Materiales, Residuos y Actividades Riesgosas*), Mexico generates more than 752 tons of harmful wastes, with only 92 tons that are actually treated and processed, the remaining 660 tons simply being dumped.

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<sup>1</sup> Economist Intelligence Unit. 2001. *Country Briefings: Mexico*.

<sup>2</sup> Centro de Estudios del Sector Privado para el Desarrollo Sustentable (CESPEDES). 1999. *Industry and Development*. Mexico City, Mexico.

<sup>3</sup> Instituto Nacional de Estadística, Geografía e Informática (INEGI). 2000.

## B. Environmental Legislation in Mexico

- 2.3 At the federal level, the overarching environmental legislation is the General Law of Ecological Equilibrium and Environmental Protection (*Ley General del Equilibrio Ecológico y la Protección al Ambiente*, or LGEEPA). The principal governing body concerning the environment at the national level is the *Secretaría de Medio Ambiente y Recursos Naturales* (SEMARNAT), which was created in 1995. SEMARNAT, which is tasked with comprehensive environmental management, strengthened its structure through the addition of the Office of the Federal Attorney for Environmental Protection (*Procuraduría Federal de Protección al Ambiente* PROFEPA), a decentralized agency in charge of environmental and natural resources law enforcement. In order to raise environmental compliance levels, PROFEPA has undertaken to expand the coverage of its actions to include voluntary and market based schemes so that punitive enforcement by the government is not their only tools to achieve the environmental and natural resource conservation objectives enshrined in the law (LGEEPA).
- 2.4 In 1992, PROFEPA initiated the National Voluntary Program of Environmental Audits of private companies and public and private entities that constitute a source of pollution or risk for the environment. These environmental audits are defined as a methodological test of installations and productive processes related to any emissions. Moreover, the audits function to evaluate the level of environmental compliance within the entity, including adherence to any applicable international agreements as well as good operating practices with the objective being to define preventive or correcting measures necessary in order to protect the environment that are integrated into an Action Plan. To date, the program has instituted over 1900 audits, of which PROFEPA has signed around 1580 agreements with entities in order to have them implement their action plan and correct any irregularities. More than 820 firms have completed their respective Action Plan and have received recognition from PROFEPA's environmental certification for "Clean Industry." PROFEPA is moving to extend this clean industry certificate to numerous sectors of the economy and turn it into an internationally recognized green seal<sup>4</sup>.
- 2.5 This voluntary audit scheme has been somewhat successful in boosting awareness among large firms in the private sector as to the benefits of pollution prevention and cleaner production. In SMEs, on the other hand, the picture is quite different, as these firms are notorious for not adhering to environmental legislation, mainly due to the fact that the legislation was developed with large enterprises in mind and has not been adapted to the conditions of a SME. Although PROFEPA is interested in trying to make their industrial environmental certification process more affordable for small and medium enterprises, these smaller firms, nevertheless, require alternative instruments to deal with environmental issues that are based on principles such as ecoefficiency, cleaner production and environmental audits with parameters set at realistic levels.<sup>5</sup>
- 2.6 In December 2001, the Mexican Congress passed a bill to reform the LGEEPA in order to institute a Pollutant Release and Transfer Register (PRTR), which will require firms to disclose publicly information about their pollutant emissions. Although this legislation is pending the signature of President Fox and the rules and regulations still need to be developed, it is expected that this requirement will have a profound effect on private sector firms and their environmental consciousness similar to the effect that the Toxic Releases Inventory (TRI) requirement had on firms in the U.S. Thus, the PRTR is expected to cause a surge in the demand for services and

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<sup>4</sup> EcoAmericas. 2001. "Clean-industry seal overhauled in Mexico" (November 2001)

<sup>5</sup> Centro de Estudios del Sector Privado para el Desarrollo Sustentable (CESPEDES). 2000. *Avances en la Gestión Ambiental de la Industria*.

programs such as environmental management and cleaner production techniques that will assist companies with minimizing their emissions.

### **C. Cleaner Production and Industry**

- 2.7 Faced with this urgent need for improved competitiveness for industry combined with a growing concern for environmental degradation, more and more companies throughout the world have begun adopting cleaner production techniques in their quest to improve their competitiveness through increased ecoefficiency. Cleaner production refers to a management process that seeks out and eliminates the causes of pollution, waste generation and excess resource consumption at their source through input reductions or substitutions, pollution prevention, internal recycling and more efficient production technology and processes. Moreover, cleaner production is a conceptual and procedural approach to the production processes, requiring examination at all stages in the life cycle of a product or process in order to prevent or minimize the short and/or long-term risks to humans and to the environment. The objective of cleaner production is to avoid generating pollution in the first place, which frequently cuts costs, reduces risks associated with liability, and identifies new market opportunities such as the creation of environmental service companies to handle the recycling of waste products.
- 2.8 Environmental management systems are proven effective vehicles to attain greater commitment from the industrial sector in striving for increasingly cleaner production. In this regard, part of the task is to develop alternative schemes to achieve compliance, away from only the traditional command and control approach, following the national and international trend of establishing proactive companies. These companies, in turn, would then have the capacity to seek more appropriate routes to solve such environmental problems that are inherent to their productive processes, which then are reflected in increased competitiveness and a reduction in operating costs or such non-productive costs as fines, temporary shutdown, or even a permanent closing of a company, in addition to paying damages to third-parties or amortizing insurance premiums.
- 2.9 The growing popularity of cleaner production and environmental management methods around the world is placing increased pressure on companies in the region to compete effectively. While large enterprises have led the way in raising global competitive standards, thereby enabling them to achieve increased market share and profits, many SMEs in the region have lagged behind. Implementation of cleaner production methods presents a greater burden to SMEs—both in financial terms and in claims on other scarce resources. Traditionally, the implementation of cleaner production techniques has been viewed as a cost to the company, but this attitude is changing as enterprises are realizing that tremendous financial savings can occur through the use of cleaner production and environmental management techniques.<sup>6</sup>

### **D. Cleaner Production and Industry in Mexico**

- 2.10 In Mexico, the demand for environment related services is estimated to be around US\$2 billion a year and is expected to grow at a rate of 8-10% per year.<sup>7</sup> A recent survey conducted by the Commission for Environmental Cooperation (CEC) indicated that small and medium enterprises in Mexico place a high priority on training related to environmental standards and legislation, understanding of pollution prevention programs and management for preventing pollution. The specific size of Mexican industrial environmental training market for small and medium

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<sup>6</sup> The World Bank. 2000. *Greening Industry: New Roles for Communities, Markets and Governments*. A World Bank Policy Research Report. Oxford University Press, Inc.: New York.

<sup>7</sup> USAID. 1995. *Environmental Markets in Mexico*. Business Focus Series, Washington, DC

enterprises is estimated to be between US\$5.5 and US\$8.4 million per year.<sup>8</sup> Not surprisingly, the demand appears to be the highest where companies perceive a direct economic benefit. “Ecoefficiency” then, must be at the core of any incentive program to foster and promote environmental programs in both the short and long terms.

- 2.11 A number of extension services exist in Mexico through government institutions (e.g. Secretaría de Economía, Nacional Financiera, etc.) and through chambers and other industrial organizations (e.g. Consejo Coordinador Empresarial – CCE and Confederación Patronal de la República Mexicana – COPARMEX) that offer support to industry in such areas as productivity, competitiveness, etc. in distinct parts of the country. These services are rather general in structure and are not tailored to provide specific services related to cleaner production and/or environmental management – two areas that require technical expertise in order to be useful.
- 2.12 In Mexico, SMEs have assumed a significant portion of the inherent costs resulting from the opening of markets due to economic globalization. Without having benefited from new opportunities, SMEs have been subjected to increased competitive pressures and removal from many of the market niches where they had traditionally prospered. The vulnerability of SMEs has also been demonstrated by their difficulties with improving productivity and environmental performance, which has caused them to be even further left behind by the larger companies.
- 2.13 The prevalent environmental standards and regulatory instruments have generally been designed by considering the circumstances of larger companies. There are not instruments adapted to the reality of SMEs that recognize their inherent limitations and potential and that offer tools to assist them with achieving compliance while maintaining a competitive edge. Available institutional support and suitable technologies have also been insufficient for Mexican SMEs, except for the work of the Centro Mexicano para la Producción Más Limpia, which maintains an institutional focus on SMEs.<sup>9</sup> This is all exacerbated by the lack of technical and business training that most SMEs confront on a daily basis and which represents a barrier to both their inherent development and competitiveness.
- 2.14 Therefore, this project proposes to create and develop cleaner production centers for the interior of Mexico, through the collaboration with private entities and/or local governments. The development of regional cleaner production centers has been tested and proven successful in other countries such as Brazil and India. These new centers in Mexico will be created in the North region (Sonora) and the Central region (Querétaro and Guanajuato). These three locations were selected based on the existing amount and types of industrial activity occurring in each site and the level of demonstrated interest among private sector entities such as industry associations and business chambers (e.g. CANACINTRA, CONCAMIN, etc.). Moreover, these locations have also been exposed to less activities related to cleaner production and environmental management, unlike such cities as Guadalajara and Monterrey, both of which have had programs targeting environmental management implementation (see paragraph 11.3)
- 2.15 Building on the experiences of the Centro Mexicano para la Producción Más Limpia (CMPL), these new centers will provide cleaner production and environmental management related services to industry and other interested entities in the region through a more cost-effective mechanism. The CMPL aspires to serve a central role in the facilitation of development

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<sup>8</sup> Commission for Environmental Cooperation (CEC). 1997. *The Demand for Environmental Education and Training in Mexico*. Montreal, Canada.

<sup>9</sup> Centro de Estudios del Sector Privado para el Desarrollo Sustentable (CESPEDES). 2000. *Aspectos Relevantes Actuales en la Gestión Ambiental Industrial*.

processes, transfer of know-how and increased use of cleaner technologies among firms throughout the country. The creation of these proposed centers would provide a direct impact by significantly reducing environmental pollution and will foster a culture predicated on sustainable development in industrial centers in the country.

### III. PROJECT BENEFICIARIES

- 3.1 Beneficiaries will be small and medium enterprises, consultants, and service providers that become associated, through competition or by invitation, in the various programs within the project.

### IV. PROJECT OBJECTIVES, COMPONENTS AND ACTIVITIES

- 4.1 The general objective of the proposed project is to assist small and medium enterprises improve their efficiency, productivity, and competitiveness and profitability through improved technological and environmental management. The purpose of this initiative is to facilitate the use and implementation of cleaner production through expanding the reach of the CMPL, allowing it to provide services to a larger number of SMEs in various parts of Mexico.

- 4.2 This project expects to encompass three components:

- a. **Creation and development of regional CP centers**—this component will seek to create and develop regional cleaner production centers through the provision of training in CP, energy efficiency, project management, promotion, and administrative management for the regional CP center staff. The CMPL will seek to become the nucleus of a network of regional centers dedicated to the promotion of CP. This project would also seek to involve national and local environmental authorities, as a means to transfer knowledge about CP and exchange experiences, with the purpose of influencing the development of policies concerning CP. In addition, the project will also seek to raise awareness about cleaner production among relevant public and private sector institutions, especially those in the area of finance.

In order to raise awareness among SMEs throughout Mexico as to the business benefits of implementing cleaner production techniques, the project expects to have a series of awareness-training sessions on cleaner production in each of the regions during the three-year period of the project.

- b. **Training in Cleaner Production Techniques**—the specific objective of this component is to develop the capacity of professionals formally trained in implementing cleaner production methods. It is expected that by increasing the local supply and capacity of consulting services, the average cost for SMEs to implement cleaner production will diminish substantially. The project anticipates having training courses targeting the following groups of participants: a) representatives of local SMEs; b) university professors as a means to infuse CP and environmental management and other topics into the university curriculum; c) representatives of public sector agencies and other interested institutions; and d) external consultants. This group of external consultants would be provided with practical experience in CP implementation training and consulting in order to develop their skills and allow them to then offer their services to firms in the future.

- c. **Demonstrating the Benefits of Cleaner Production among SMEs**—with the purpose of promoting the benefits of cleaner production among SMEs, the project will develop demonstration cases of CP implementation in each of the regions. The implementation of these CP methods, undertaken on a cost-sharing basis, will demonstrate that it is possible for SMEs to achieve significant improvements through cleaner production techniques. The participating companies will benefit directly from the reduced production costs that will arise and the consequent increases in profitability. These companies would then be utilized to demonstrate the benefits of CP implementation to other local firms through the project's promotional activities such as publications, seminars, and workshops. Moreover, the project will seek to work with particular industry associations such as the tannery sector that have demonstrated a strong demand for assistance related to environmental management. More specifically, in the case of the tannery sector, the project will assist firms achieve regulatory compliance. The project would also design and maintain an Internet website that would be used to track the progress of this project and to disseminate the results. Moreover, additional promotional activities linked to the MIF Ecoefficiency Cluster (see paragraph 11.2) will be included in this initiative.

## V. PROJECT COST, FINANCING AND EXECUTION TIME

- 5.1 The estimated cost for the project is approximately US\$1,800,000 of which US\$900,000 is requested for financing by the Multilateral Investment Fund. The remainder, US\$900,000, will be contributed by the local counterpart agency, with at least half of this amount in cash, the rest in kind. The project is expected to continue over a three-year period.

## VI. EXECUTING AGENCY

- 6.1 The *Centro Mexicano para la Producción más Limpia (CMPL)* will be the grant beneficiary and responsible for local counterpart resources. The CMPL was created in 1995 with the support of UNIDO, along with the local counterparts, the National Polytechnic Institute and CANACINTRA. In December 1998, UNIDO ended its support of the CMPL. The mission of the CMPL is to promote the use of cleaner production techniques among companies in Mexico as a means to improve competitiveness as well as assist in mitigating the deleterious impact of industrial activities on the environment. The CMPL provides technical assistance activities in cleaner production, energy efficiency techniques and environmental management systems to the private sector, along with training and information dissemination in these various themes. In addition, the Center develops strategic studies concerning natural resource management including studies on policy and financing matters relative to cleaner production and other similar topics.
- 6.2 The CMPL has over six years of experience, having worked in over 10 industrial sectors and with numerous organizations such as universities, industry chambers, business associations and cleaner production centers in Latin America including El Salvador, Costa Rica, Guatemala, Nicaragua and Colombia. As mentioned previously, the CMPL has maintained a focus on providing services to SMEs, allowing it to gain an expertise in overcoming some of the particular issues that often confront smaller enterprises. The CMPL consists of 16 professionals: 12 of which are trained CP specialists and four trained in administration and finance.
- 6.3 Day to day project implementation will be undertaken through the CMPL and by contracting additional local technical specialists in each region. Each CP regional center is expected to include a regional coordinator, two CP specialists and an administrative assistant. The procedures to continually supervise and evaluate the CP regional centers will be based on those

originally developed by UNIDO and the CMPL's own procedures, as it is currently in the process of developing manuals in order to achieve ISO 9000:2000 certification.

- 6.4 The CMPL has already received letters from the state governments of Sonora, Guanajuato and Queretaro confirming interest in having a CP center in their respective state. In Guanajuato, the project will seek to coordinate activities with the US-Mexico Chamber of Commerce and the Tannery Industry Chamber of Guanajato because of their recognized leadership role in that state. These two Chambers will also be able to assist in the development of specific activities to address the urgent environmental compliance situation confronting firms in the tannery sector.

## **VII. EXPECTED PROJECT RESULTS AND JUSTIFICATION**

- 7.1 The project is expected to achieve the following results including:
- a. Expansion of the concept of ecoefficiency among enterprises as an important factor of competitiveness and profitability;
  - b. Improvements in the quality of the workforce through the training of workers and employees;
  - c. Promotion of improvements achieved in companies in both technical and technological areas;
  - d. Improvements in the relationship of companies with environmental authorities, clients and communities;
  - e. Strengthening of the relationship with financial institutions in order to facilitate access to credit for SMEs interested in CP;
  - f. Improvement in the environmental quality in urban areas to minimize health related risks to Mexicans; and
  - g. Creation of self-sustainable centers to provide CP services on a permanent basis.

## **VIII. MAJOR ISSUES**

- 8.1 During the preparation and analysis period, the project team will give particular attention to the following areas: (i) the institutional capacity of the CMPL, especially related to their ability to implement and oversee the proposed activities; (ii) the organizational structure and the administration of the proposed activities; (iii) the budgetary needs of each regional center and the confirmation of counterpart resources; (iv) the participation and role of local counterpart agencies in each of the regions, which will be confirmed through an inter-institutional letter of agreement; and (v) the expected cost recovery scheme that will permit the regional centers to eventually become self-sustainable.

## **IX. COUNTRY OFFICE RECOMMENDATIONS**

- 9.1 COF/CME recommends that this project abstract be deemed eligible by the POC, as it represents an area of interest for the country and Bank, since it encompasses a sound alternative that will contribute to the development of a culture based on sustainable production in Mexico. Nevertheless, the Representation requested that the project analysis include details as to the

expected activities and components within the initiative and to incorporate specific measures that will ensure the project's sustainability.

## **X. ESTIMATED PROJECT PREPARATION AND ANALYSIS TIME**

- 10.1 Once this abstract is approved, the project team will undertake the preparation and analysis mission within two months of abstract approval. Therefore, once the eligibility of this initiative has been determined, it is estimated that the project preparation and analysis time will be around five months until submission for project approval to the Donor's Committee.

Presentation to the POC:	February 2002
Project mission:	February 2002
Submission to the CRG:	May 2002
Presentation to the Donors:	June 2002

## **XI. RELATION WITH OTHER BANK PROJECTS**

- 11.1 The Bank Country Paper for Mexico identified a number of challenges that are constraining the competitiveness of the private sector, which included issues related to the environment and urban development. Most notably, Country Paper identified the disconnect between natural resource use and efficiency, which has resulted in serious environmental problems such as water and air pollution, culminating in an adverse affect on human health and diminished availability of natural resources. In response to this, the Bank's proposed strategy for Mexico has as one its four basic elements: *Improving competitiveness by lowering barriers that limit productivity and efficient development of the private sector*. Moreover, the Country Paper identified the role of the MIF in Mexico to include improving the competitiveness of the private sector among its four major areas of possible operations.
- 11.2 This initiative is linked to other efforts of the MIF in the area of ecoefficiency and cleaner production and will be specifically included in the MIF Cluster, *Achieving Ecoefficiency Through Cleaner Production and Environmental Management* (see MIF/GN-58-1).
- 11.3 Another MIF project is currently under implementation in Monterrey, Mexico with the Instituto de Protección Ambiental (IPA) that is focused on assisting SMEs with ISO 14001 environmental management system implementation. The project in Monterrey is part of the ISO Cluster of projects. Given that the activities encompassed in the MIF project with IPA only pertain to the Monterrey area, there is no expected overlap with this proposed initiative with the CMPL. However, there may be some important initial lessons learned that would be infused into this proposed project, if deemed relevant by the project team.

Approved by: \_\_\_\_\_

Date: