

## CP-EE Project Background

In a highly competitive business environment, corporate behavior is strongly conditioned by price, regulatory and consumer signals. The methods developed by the UNEP Cleaner Production (CP) programme can be used in this environment to systematically identify, evaluate and implement opportunities to improve industrial production in a variety of industries. CP is both a process of continuous improvement and a 'win-win' strategy that protects the environment, consumers and workers.

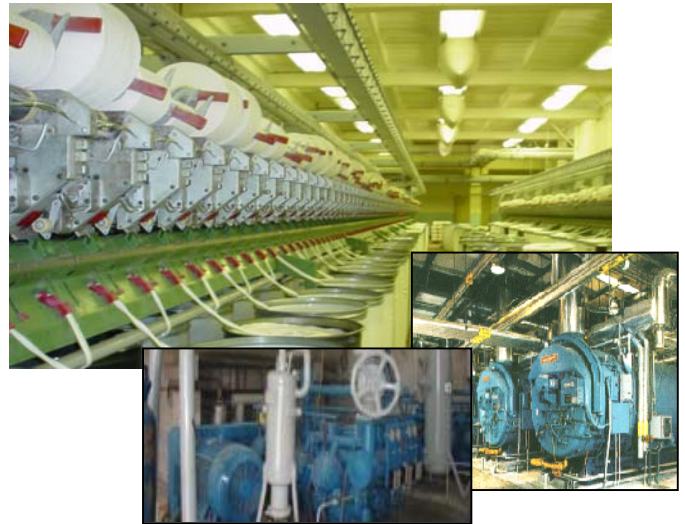
This process can be applied to industrial energy use, which accounts for significant economic costs and causes environmental impacts, including a large percentage of total greenhouse gas (GHG) emissions. Poor energy efficiency wastes resources and produces unnecessary pollution that is not only a cost to business, but is also a concern to governments charged with protecting environmental values. Enterprises can often improve energy efficiency through simple low or no cost measures, such as maintaining and optimizing equipment.

Cleaner Production and Energy Efficiency (CP-EE) are thus extremely compatible with CP providing the framework for an ongoing, systematic approach to energy efficiency where environmental and economic benefits are real and measurable. The approach harnesses the private sector's motivation to make financially attractive investments.

Integrating Cleaner Production and Energy Efficiency also improves the energy and environmental performance of industry by reducing wastes and GHG emissions, and establishes a structured system to ensure continuity and sustainability. CP-EE also increases the competitiveness of small or medium enterprises (SMEs) by lowering their manufacturing costs.

## Project Objectives

To support efforts that integrate Cleaner Production and energy efficiency into private sector activities, UNEP's Division of Technol-



*In a CP audit, enterprise can identify a number of low or no cost energy efficiency measures, such as energy efficient lighting bulbs/ timer switches (above top), waste heat recovery from flue gases for boilers or replacing V-belts with synchronous drives for motors (above right and below). These measures can serve as 'starter' investments that generate enthusiasm for a greater commitment to a full programme of CP-EE activities.*

ogy, Industry and Economics (DTIE) initiated the CP-EE Project in February 2002 with funding from the Global Environment Facility (GEF). The services under this project are delivered through selected National Cleaner Production Center (NCPCs).

Through a structured approach, the CP-EE Project aims to reduce industrial carbon dioxide emissions by improving energy management practices and identifying new CP-EE investments for SMEs. The approach is consistent with the Environmental Management System (EMS) framework embodied in UNEP's Cleaner Production Programme.

The project responds to specific information needs of industry identified by NCPCs, particularly the information needed by SMEs to implement energy efficiency measures identified in CP audits. This effort is helping industrial managers and senior staff who are not energy specialists to better manage energy issues, including the management of outside energy specialists.

Based on their experience and strong relationships with industrial enterprises, NCPCs have found that CP methods and projects are often advantageously presented within the context of energy efficiency. As energy savings and cost benefits are obvious incentives to industry, the CP-EE project helps strengthen those incentives and make the overall effort more attractive to industry.

Conducting the project within the established network of NCPCs leads to faster adaptation and replication by other enterprises because of the many outreach and information dissemination activities already underway.



*Project services are delivered through selected NCPCs, trained CP professionals working in those Centres help industry conduct energy audits as an integral part of a CP audit. This allows the NCPCs to include energy efficiency activities as a comprehensive part of their core programmes, which are primarily aimed at small or medium enterprises.*

#### **CP-EE means Substantial Benefits for Industry:**

- *better economic efficiency,*
- *identification of a wider range of options for improvement,*
- *integrated process control as EE covers process parameters as well as energy equipment parameters,*
- *improved data collection and monitoring for the dual purpose of CP and EE,*
- *a way to meet ISO 14001 requirements,*
- *addressing inter-dependent waste and energy issues, e.g. scale losses resulting from excess air in furnaces,*
- *easier identification of hidden losses/wastes, and*
- *a better image in international markets.*

#### **... and for NCPCs:**

- *an expanded client base,*
- *demonstration of early results,*
- *providing industry with a more comprehensive range of services with higher added value,*
- *access to new and additional sources of funding, and*
- *improved relationships with client industries.*

The project will be extended by UNEP to other NCPCs operating in the larger CP Network. The successful approach can form the basis for a larger strategic partnership between the private sector, NCPCs (or CPC-like institutions) as executing partners, and UNEP as a GEF implementing agency.

#### **Project Outcomes**

The main outcomes of the project include:

- Trained personnel in the six NCPCs who can conduct an energy audit, either as a stand alone activity or as part of CP-EMS audit.
- National versions of the UNEP/UNIDO CP-EE Manual specifically integrated with the CP and EMS materials already being used by the six National Cleaner Production Centres;
- Energy audits conducted by each of the six participating Centres (a total of 90 audits); as well as financing proposals for medium-cost energy efficiency investments with financial institutions.
- An estimated annual reduction of 225,000 tons of CO<sub>2</sub> based on the experience of the six NCPCs participating in the project.

