

Management, Not Technology, Is the Key to Reducing Environmental Impacts

At the globally attended 2001 Greening of Industry Network conference in Bangkok, a prominent official from the Asian Development Bank asserted that over the previous decade, tens of millions of U.S. dollars had been spent promoting the concept of cleaner production (also known as pollution prevention) in developing countries—but that these efforts had “virtually no impact” on the environment. Those attending were encouraged to consider how programs might be made more effective.

More recent results of a major program in Thailand indicate that a greater focus on management change—as opposed to a primary focus on technology—may be the answer to more effective pollution prevention and energy-efficiency promotion programs in developing countries. ICF Consulting designed and implemented the Cleaner Production for Industrial Efficiency (CPIE) Program for the Government of Thailand with a goal of reaching hundreds of organizations, achieving substantial environmental improvements, and perhaps most importantly, ensuring that the impacts of the project would be sustainable.

During the early research phase of the Program, we consulted with more than 100 of the 4,500 representative companies in the area. We determined that, contrary to popular belief, it was not a lack of knowledge about or access to technology that was preventing industry from implementing pollution prevention measures. What was missing was



An umbrella manufacturer in Thailand checks for consistent quality.

a formal management structure within industrial facilities to implement an organized pollution prevention program. Furthermore, we determined that while most programs were interested primarily in promoting the use of new technologies, the economic situation for many companies in Thailand ruled out the possibility of investments in such projects, regardless of the payback period.



CPIE Program members share experiences on a factory tour.

To address these issues, ICF Consulting developed an innovative voluntary commitment program modeled loosely after the U.S. Environmental Protection Agency’s highly successful ENERGY STAR® initiatives. The program was designed and implemented with three guiding principles in mind:

- Greater focus of time and resources on developing a formal management structure to implement pollution prevention and energy efficiency will result in long-term adoption of these techniques.
- An initial focus on the promotion of low-cost and no-cost pollution prevention changes will help gain the trust of skeptical managers, and will make the promotion of more complicated and expensive technical changes more successful.
- Shifting the focus of technical assistance away from using outside experts, and more toward teaching companies how to do for themselves, will allow limited program budgets to reach more companies, resulting in more widespread implementation of pollution prevention techniques and greater potential for improved environmental results.

Response to the program was overwhelming.

More than 630 organizations joined the CPIE Program, and were able to benefit from extensive training, factory visits, technical documentation, membership in a CPIE networking club, and significant public recognition. Approximately 6,000 individuals from these member organizations participated in 170 training workshops and more than 6,500 technical manuals and other tools were distributed to members.

Through participation in these and other special activities, members succeeded in eliminating an estimated 2,000,000 m³ of water and wastewater per year, and reduced electricity usage by an estimated 54,000,000 kWh per year. Substantial reductions also were achieved in solid waste, diesel fuel, solvent and paint use, and a variety of other areas. Estimated cost savings to CPIE Program members from the implementation of largely low-cost and no-cost pollution prevention measures exceeded US\$6 million per year.

This model of promoting pollution prevention also resulted in a greatly improved relationship between the Government of Thailand (represented in this case by the Pollution Control Department (PCD) of the Ministry of Natural Resources and Environment) and the industry members of the Program. Where once most industry members were wary of PCD and its motives, the CPIE Program succeeded in substantially changing this feeling. By the end of the Program, PCD officials were receiving personal invitations to attend activities and participate in visits at numerous member facilities, despite the fact that at the

Contrary to popular belief, it was not a lack of knowledge about technology that prevented industry from implementing pollution prevention measures...but the absence of a formal management structure.

Program's inception these same members were nervous about permitting these officials to enter their facilities.

While it is still too early to determine if the CPIE Program will be effective in promoting the long-term use of pollution prevention techniques among active members of the Program, ICF Consulting is optimistic that a significant number of the members will continue. The fact that many of the Program's

early members decreased their attendance at organized activities (training, factory visits, etc.) over time, yet still continued reporting new successes in pollution prevention implementation, appears to support this idea.

ICF Consulting believes that the CPIE Program model has wide applicability, primarily due to its flexible design. The experience in Thailand illustrates that the model can be adapted for use in developing countries around the world. In addition, the experience of a number of Program members suggests that the CPIE Program model may be an effective method for large companies to provide assistance to members of their supply chains, resulting in greater efficiencies and cost savings throughout the supply chain, as well as a substantially reduced environmental impact. As for the Government of Thailand, they have clearly realized the benefits of the CPIE Program model, and currently are preparing to launch a similar initiative in another part of the country.

For more information on ICF Consulting's environmental capabilities, please visit www.icfconsulting.com/environment.