



## China-Canada CP Project at Huangshan Cleaner Production Seminar

The China-Canada Cooperation Project in Cleaner Production was described in a number of presentations made at the three day Sino-US Huangshan Cleaner Production Seminar held in Huangshan, Anhui Province in November 1998. About 150 representatives from government, industry, industry associations, universities, research/technical institutes, consultants, and specialists from China, the United States and Canada discussed ideas for implementing Cleaner Production (CP) in China. Following the presentations, seminar participants discussed future activities that could contribute further to effective CP programs in China.

Madame Huguette Labelle, President of the Canadian International Development Agency (CIDA), made an important plenary session speech in which she described the elements that have made

the project a success: the partnership approach to policy development, training, installation of hardware and software for sharing information and successes, and demonstration projects. Madame Labelle confirmed that, two years into the project, both demonstration plants (Anhui Paper Mill and Fuyang General Chemical Plant) had achieved substantial savings in manufacturing costs and reductions in emitted pollutants using no- and low-cost solutions. Madame Labelle's message: "This practical hands-on approach in a partnership arrangement is the right way to go and it offers an example for other industries in China to follow."

Mr. Sun Yongquiang of Fuyang General Chemical Plant summarized the successes at that plant resulting from the China-Canada partnership. The elements for success were listed as: a) manage-

ment commitment to cleaner production; b) training of staff by Canadian experts; c) plant audits, followed by development and undertaking of no- and low-cost work items; and d) empowerment of employees to identify and implement CP elements, coupled with bonus programs.

Mr. Qi Hongwei gave an overview of the Cleaner Production Centre of the Chemical Industry, including the activities and accomplishments of the China-Canada project.

Mr. Arthur FitzGerald, who has been advising on the development of policy and guidelines for the China-Canada project, described new World Bank guidelines and their importance to Chinese industry. These are part of the Bank's Pollution Prevention and Abatement Handbook, which sets out pollution prevention requirements with which World Bank-funded projects must comply. Mr. FitzGerald made the case that, by using these guidelines when designing new plants and modernizing existing ones, projects in developing countries have an advantage. In the China-Canada CP project, SETC and SEPA have indicated that they want to distribute the World Bank guidelines to industry to assist in CP initiatives.

In discussions following the formal presentations many seminar participants congratulated representatives of the China-Canada project on the practical approach taken by the project partners and on the successes achieved to date.

*Arthur FitzGerald*

**For more information on the project please contact Ken Parent at PricewaterhouseCoopers, phone 613 237-3702, email [kenneth.r.parent@ca.pwcglobal.com](mailto:kenneth.r.parent@ca.pwcglobal.com)**



Photo by Fuyang General Chemical Plant

**CIDA President Mme Labelle touring Fuyang General Chemical Plant.**

Left to right: Mr. S. Wang, plant manager; Mme. Labelle; Mme. Sito, interpreter; Mr. J. Rao, deputy plant manager; Ms. X. Liao, TV interviewer.

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**Winter/Spring 1999**

# Project Update

The project has seen the completion of several activities as it reaches the 2½ year mark.

Project documents are a catalyst for CP policy development in China. A report on Environmental Policy Evolution in Canada—How It Has Supported Cleaner Production is now available for Chinese policy makers. A Case Study of the Canadian Pulp and Paper Industry has been prepared; a case study of the Fuyang Fertilizer Plant is underway. These documents and a proposed framework for policy development were the basis of extensive discussions by senior officials in Beijing. As a result, the SETC has assigned a high priority to CP policy formulation. This is an important step in the mainstreaming of Cleaner Production across government agencies.

CP implementation is well underway at two demonstration projects. At the

Fuyang General Chemical Plant changes are proposed that have the potential to reduce pollution loads at source by up to 50% (losses of ammonia). In addition, ammonia recovery is expected to generate substantial revenues for the plant. Newly purchased equipment could start-up as soon as March 1999. At the Anhui Paper Mill a proposed Cleaner Production solution is being tested. Once a solution has been confirmed for Anhui, CP solutions will have been identified and joint recommendations made for how to implement CP in both facilities.

The process of developing an audit manual and guidelines has evolved as a collaborative initiative in capacity development. A draft CP audit manual for the pulp and paper sector has been produced and currently is undergoing review by the Chinese Project Office. Building on previous Chinese experience with other

manuals, the audit manual is sector-specific and provides step-by-step instructions and concrete examples drawn from the demonstration projects. A first working draft of CP guidelines for the pulp and paper sector has also been prepared. Depending on the outcome of discussions about these draft documents, the project may develop audit manual /guidelines for the fertilizer sector.

Training and awareness are progressing well. A total of thirty Chinese officials participated in three separate two-week study tours of Canada between August and December. In addition, four Chinese participants took part in the three-week long, 7<sup>th</sup> International Environmental Management Seminar at Dalhousie University. At the seminar, senior environmental managers from developing countries and internationally recognised experts shared information and ideas, and jointly developed approaches for dealing with common problems.

*Mary Ellen MacCallum*

**For more information on CP planning and implementation, please contact Mark Osterman or Marcel Pineau at SNC-Lavalin, 514 393-1000, email ostem@snc-lavalin.com, pinem@snc-lavalin.com**

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# Study Tours Provide First Hand Experience with CP

Project study tours provide Chinese CP experts with first hand experience about CP in Canada.

The first of these, a **Technology Study Tour**, brought ten technical experts from China to observe how CP technologies are implemented in Canada.

CP practices and technologies were demonstrated through visits to several facilities: two fertilizer plants (the Agrium Nitrogen Plant, in Carseland, Alberta, and Terra Nitrogen, an ammonia and urea plant in Courtright, Ontario), two pulp and paper mills (the Thurso Pulp and Paper Mill of James MacLaren Industries Inc., and Domtar's Cornwall Pulp and Paper Mill, both in Ontario), and Montreal's municipal sewage treatment plant.

SNC-Lavalin in Montreal presented a case study of a new software application that helps monitor and reduce fugitive air emissions from chemical plants. This was followed by a tour of the industry: CXY Chemical.

The group also was introduced to the promotion of CP by government agencies and NGOs across Canada. Delegates visited Environment Canada in North Vancouver and Hull, Industry Canada in Toronto, and the Canadian Centre for Pollution Prevention in Sarnia.

In October, a **Policy Study Tour** was held. Twelve Chinese policy experts visited Ottawa, Toronto, Quebec City, Calgary and Victoria, and Vancouver.

The tour provided opportunities for policy makers to talk with their Canadian counterparts and gain insight into CP policy development in Canada. Discussions focused on: interactions among and differing roles of various government departments, especially regarding taxes, duties and other financial arrangements; different approaches and procedures of various provinces; interplay among various partners (government, industry, NGOs) in developing policy; and seeing CP policies in action.

The tour was hosted by staff from federal government departments of Finance, Industry, Environment, and Natural Resources; provincial ministries in Toronto, Quebec City and Victoria; the National Roundtable on the Environment and the Economy, and the Quebec roundtable—Centre patronal de l'environnement du Quebec. Delegates also visited two industrial sites to see CP in action—Agrium Nitrogen Plant near Calgary and Dynamotive in Vancouver.

The participants were especially interested in learning about partnerships that involve the private sector and NGOs as well as government. They were briefed on the St. Lawrence River Action Plan, the Fraser River Action Plan, and the new Georgia Basin Initiative. They also visited Pollution Probe in Ontario and the University of British Columbia's Sustainable Development Research Institute.

The **Information Technology (IT) Study Tour** took place in December. Eight participants toured IT facilities in Winnipeg, Guelph, Toronto, Hull and Ottawa. They gained experience in a wide range of uses of IT to implement and promote CP.

Their visits focused on three major applications of IT: using off-the-shelf and tailored software to facilitate front office operations and project management; uses of websites for information dissemination, coordination, and training; and use of computers in process control and pollution monitoring. They also learned about the Y2K problem and what is being done to avoid it.

The tour included visits to a paper mill (Pine Falls Paper Mill) and a fertilizer factory (Simplot Fertilizer Factory) in Manitoba, where they observed both front office uses and the use of computers in process control, monitoring and data analysis. They became acquainted with the versatility of websites, and became informed about where to access CP information through visits to the International Institute for Sustainable Development and Canadian Council of Ministers of Environment, both in Winnipeg, the Canadian Centre for Pollution Prevention in Sarnia, and Guelph University. Federal and Provincial government departments (Industry and Environment) demonstrated their websites and how to manage them. At Guelph, participants also received hands-on training in using web sites, search engines, and how to develop an application in Excel. They learned about on-line (pollution monitoring) data collection at Ontario Ministry of Environment and Energy. Three private companies demonstrated various software applications developed to facilitate the handling of environmental data. These included an ISO 14000 management system (Intelx), a water process control system (Moore Process Automation Solutions), and an environmental information system (ESSA Technologies Ltd.).

*Mary Ellen MacCallum*

For more information on Training and Awareness Raising, please contact Gordon Chiu at Jacques Whitford, 902 468-7777, email [gchiu@jacqueswhitford.com](mailto:gchiu@jacqueswhitford.com)

For more information on China-Canada Cooperation Project in Cleaner Production, please see our web site:  
**[www.chinacp.com](http://www.chinacp.com)**

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# Cleaner Production Gains Momentum in China - With the Help of its Friends

Cleaner Production is gaining momentum as an important tool in China's efforts to protect and improve its environment. Canada is one of several international donors working to catalyse change. Other foreign-sponsored CP projects include the following:

European Union: US\$45 million for an environmental protection /prevention program with CP components;

APEC: up to US\$1 million for CP training at the Chinese CP centre;

ADB: US\$3 million to initiate a CP project with subsequent revolving fund; and US\$3.5 million to fund a cluster of initiatives promoting CP across the government (to be initiated);

World Bank: US\$34 million grant for energy projects with CP components.

Canada plays an important role through the China Council for International Co-operation on Environment and Development (CCICED) Working Group on CP. Dr Robert Lao, the Canadian project coordinator, resident in Beijing, is an appointee of the CCICED to the Working Group. This group currently is concentrating on promotion and implementation of CP in township and village industrial enterprises. Next year the working group's focus will shift to State-Owned Enterprises.

*Mary Ellen MacCallum*

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## What's What

CEA	Canadian Executing Agency
CIDA	Canadian International Development Agency
JPSC	Joint Project Steering Committee
MOFTEC	Ministry of Foreign Trade and Economic Cooperation
SEPA	State Environmental Protection Agency
SETC	State Economic and Trade Commission

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