Government Initiatives

Business value of toxics reduction and pollution prevention planning

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ABSTRACT

As part of Ontario’s Toxics Reduction Strategy, the Ontario Ministry of the Environment provided funding for two years to a partnership of the Ontario Centre for Environmental Technology Advancement (OCETA) and the Canadian Manufacturers & Exporters (CME) to deliver a Cleaner and Greener Manufacturing Program, which will include the development and delivery of training and technical assistance programs on toxics reduction and pollution prevention (P2). Over the next two years, OCETA and CME will be working with small-to-medium sized manufacturers to demonstrate the business value of toxics reduction and pollution prevention planning to help motivate businesses to move into a greener economy.

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1. Ontario’s toxics reduction strategy

The Province of Ontario has developed a Toxics Reduction Strategy that included the introduction of the Toxics Reduction Act, 2009 to reduce pollution, and inform and help protect Ontarians from toxic chemicals in the air, water, land and consumer products. Other components of the Strategy include elements to build capacity and provide support to business facilities to reduce toxics, and to keep Ontarians informed about toxics in the environment and consumer products. The strategy is intended to refocus traditional ‘end of pipe’ management of chemicals to include a focus on chemical ‘use’. It is designed to foster a greener economy and to encourage the adoption of safer alternatives and green technologies.

2. Cleaner and greener manufacturing program

In May 2010, as part of Ontario’s Toxics Reduction Strategy, the Ontario Ministry of the Environment provided funding for two years to a partnership of the Ontario Centre for Environmental Technology Advancement (OCETA) and the Canadian Manufacturers & Exporters (CME) to deliver a Cleaner and Greener Manufacturing Program, which will include the development and delivery of training and technical assistance programs on toxics reduction and pollution prevention (P2).

Over the next two years, OCETA and CME will be working with small-to-medium sized manufacturers to demonstrate the business value of toxics reduction and pollution prevention planning to help motivate businesses to move into a greener economy. Key elements of this new program include:

- Demonstrating the business value of toxics reduction and pollution prevention planning;
- Seminars for business leaders to increase their awareness and understanding of the benefits of toxics reduction planning for business;
- Training for small and medium enterprise (SME) manufacturing facility staff in the practices of toxics reduction accounting and planning, and pollution prevention planning;
- A “one window” information sharing web portal for businesses to search for and share best practices;
- Site-specific technical assistance for SME companies that will undertake toxic substance accounting, toxics reduction planning and pollution prevention assessments; and
- Preparation of public case studies on SME clients that have received pollution prevention/toxics reduction technical assistance.

2.1. OCETA’s 2010 report: business value of toxics reduction and pollution prevention planning

OCETA’s report includes an analysis of the business value of pollution prevention planning and toxics use reduction for 63
Toronto Region Sustainability (TRSP) clients whose P2 assessments were completed as of June 2010, based on environmental performance improvements and the financial/economic metrics of cost avoidance, payback, business risk reduction and competitive advantage. OCETA conducted a confidential follow-up discussion with and obtained feedback from each program client and consultant, following completion of their P2 assessment. The report can be downloaded by hyperlink from OCETA’s website at www.trsp.ca/business-value-tr-p2-report.

Greater than 90% of participating companies have implemented all or most of the recommended actions identified through their pollution prevention assessment report. These businesses have not only improved their environmental performance, but also enhanced their business bottom line with significant cost savings, reduced business risks, and an average payback of less than one year. The environmental and economic benefits are publicly reported on the TRSP website: www.trsp.ca/results.htm.

OCETA’s experience in providing pollution prevention technical assistance shows that companies need a mix of strategies to make a business case to implement pollution prevention and sustainability measures. Depending on the culture and history of the company, the business case needs to be framed in terms of:

- Cost avoidance and profitability: cost savings, payback period, and operational efficiencies
- Business risk reduction: Market risks (threat of regulation, customer backlash, reduced demand); Balance-sheet risks (remediation liabilities, insurance underwriting, property damage); Operating risks (hidden costs of cleanup, spills, accidents, risks to worker safety from materials handling, regulation-driven process change, rise in price of materials, energy); and Capital cost risks (product re-design to meet new industry standards, costly input material substitution, pollution control, and waste treatment).
- Competitive advantage: Green marketing, corporate image, access to global markets; and improved customer retention.

Integration of toxics reduction and pollution prevention planning with existing quality, health and safety and environmental management systems is fundamental to successful implementation. Toxics reduction and pollution prevention planning provide clear business value for small-to-medium sized manufacturers to adopt and implement their process optimization solutions.

2.1.1. Senior executive seminars — demonstrating business value

CME and OCETA will be delivering four high value focused 2-h seminars for senior executives in four regions of Ontario in the fall of 2010. These seminars will emphasize the business case for adopting and implementing toxics reduction and pollution prevention planning. Presenters will include experts and successful practitioners in the areas of industrial process optimization, pollution prevention and toxics reduction.

2.1.2. Facility staff workshops — tools for greening the bottom line

CME and OCETA will be delivering a series of four two-day interactive workshops for manufacturing facility staff such as plant managers, environmental health and safety managers/coordinators, and others, in four regions of Ontario in the fall of 2010. Each workshop will entail a comprehensive discussion and familiarization with the full toxics reduction and pollution prevention planning tool box, and will build capacity for the participants to understand the benefits of and conduct the following:

- toxic substance and waste characterization and quantification;
- process mapping and flow diagrams;
- prioritization of input and waste streams for detailed assessment;
- root cause analysis;
- development of source reduction solutions to eliminate the root causes of priority toxics, pollutants and wastes;
- development of the business case including reduction quantification, capital costs, annual savings and payback for each process optimization solution;
- ranking of toxics reduction and pollution prevention opportunities for implementation;
- integration of toxics reduction and pollution prevention planning with management systems such as ISO 14001 (environmental), ISO 9001 (quality) and Lean Manufacturing; and
- toxic substance accounting and toxics reduction planning as described under the Toxics Reduction Act 2009 and associated regulations.

Each workshop will show how toxics reduction planning requirements can build on actions that companies have already taken or were planning with regard to reducing their environmental footprints in terms of toxics, sewer discharges/wastewater, criteria air contaminants/smog precursors, greenhouse gases, hazardous wastes, and energy and water consumption.

2.1.3. Technical and financial assistance — pollution prevention assessments

Site-specific technical assistance will be provided through OCETA’s Toronto Region Sustainability Program to help SMEs in the Greater Toronto Regions to assess their toxic substance accounting and undertake a pollution prevention/toxics reduction assessment to identify process optimization and waste reduction opportunities. The resulting action plan will address priority environmental issues (toxics, sewer discharges/wastewater, criteria air contaminants/smog precursors, greenhouse gases, hazardous wastes, and energy and water consumption). Eligible companies are those SMEs with fewer than 500 staff at the facility, providing information to the National Pollutant Release Inventory (NPRI), or reporting for acetone under Ontario Regulation 127/01 and captured by the Toxics Reduction Act 2009. Funding is available until the end of fiscal year 2011–2012, for sixteen SMEs to receive fifty percent cost share (up to a maximum of $7000) to help offset the costs of the multi-media pollution prevention/toxics reduction assessment.

2.1.4. Progress reporting

The web portal http://www.cme-mec.ca/english/best-practices/programs/cleaner-greener.html?action=show&path=clean will allow those interested to follow the progress and results of the Cleaner and Greener Manufacturing Program.