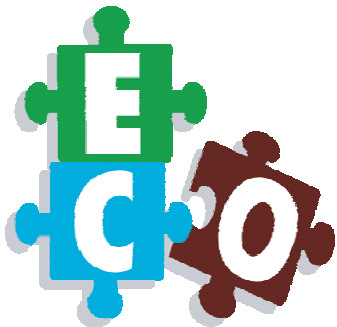


7th Canadian
Pollution Prevention Roundtable
Calgary, Alberta
June 11-12, 2003

Strategies for Mobilizing SME P2

Understanding Chemical Use in SME's



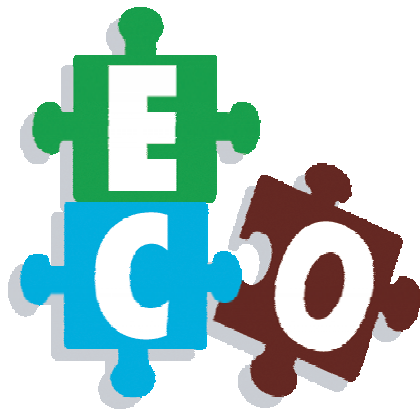
DALHOUSIE
University



Environment
Canada

Environnement
Canada

Peggy Crawford
Ray Cote
Michael Guilcher
Eco-Efficiency Centre
Burnside Industrial Park
Dartmouth, NS Canada




Eco-Efficiency Centre

Committed to Excellence and Efficiency



The Salamander Foundation





Primer on the Eco-Efficiency Centre

We are a non-profit, arms-length educational and environmental management support centre located in one of Canada's largest industrial parks – Burnside Industrial Park. We have been in operation for nearly five years.

We were initiated as a partnership between Dalhousie University and Nova Scotia Power Inc. - the province's electric utility - with financial support secured from the environmental management and economic development agencies of the municipal, provincial and federal governments for a three year period. Currently, we are supported by the Halifax Regional Municipality, the Atlantic Canada Opportunities Agency (ACOA), RRFB Nova Scotia and the Salamander Foundation.


We focus on small and medium-sized businesses – working with them to achieve better environmental and economic performance through source reduction, resource conservation, reuse, recycling, and other good environmental practices.

We're lean – a full time manager, part time technical advisor, and 2-3 students each term. A key function is to provide business and engineering students with practical, meaningful work experiences.



Primer on the Eco-Efficiency Centre

- Developed a voluntary program for businesses - the Eco-Business Program - with a variety of innovative components, to assist businesses in making environmental and economic improvement (100 members)
- Undertake integrated environmental reviews with the objective of identifying source control, energy and water conservation opportunities (150)
- Host an annual Environmental Excellence for Business breakfast to celebrate companies that have worked to improve their environmental and economic performance through projects involving technology changes, resource conservation, renovation, reuse and recycling
- Develop educational materials for business - “Tools for Greening Your Business” Starter Kit, fact sheets, check-lists for various sectors, resource lists, website, newsletters
- Write a monthly column, *Burnside Eco-System*, in Burnside monthly newspaper
- Facilitate material exchanges – operate the Nova Scotia Materials Exchange (online)
- Make presentations to the business community - workshops, seminars
- Engage in other special projects with governments as resources allow



Understanding Chemical Use in SME's Background

In 2002, the Centre was engaged by Environment Canada – Atlantic Region to look at Chemical Use in SMEs in the Halifax Regional Municipality (HRM)

Environment Canada has been working towards:

- Gathering more information on the environmental impacts of SME's to help them better address key issues
 - Governments need to understand the significance of the issues to be addressed when identifying and promoting pollution prevention opportunities to SME's, particularly related to toxic substances regulated under CEPA and the National Pollutant Release Inventory (NPRI)
- Seeking opportunities to engage more SME's in environmental improvements, particularly through linking with initiatives like the Eco-Efficiency Centre
 - SME's need to be educated about toxic substance use in their operations
 - Traditional approaches don't work with SME's

Understanding Chemical Use in SME's Project Specifics

•Survey - was developed by the Centre and Environment Canada staff. Survey included questions on:

- company processes
- records on chemical use
- air quality
- chemical use patterns
- waste chemicals
- expired chemicals
- spill management practices
- any recent significant changes in use that may have occurred
- generic products and brand names

Chemicals considered to be toxic under the Canadian Environmental Protection Act, those listed in the National Pollutant Release Inventory and those chemicals which have Material Safety Data Sheets were of particular interest in the survey



Understanding Chemical Use in SME's Project Specifics

- Audience – Looking to survey 100-150 SME's within 2-3 month period
 - Targeted members of the Eco-Efficiency Centre's Eco-Business Program
 - Used a list of 300 HRM businesses that were within sectors of particular interest/concern to Environment Canada with regards to chemical usage - printing, metal finishing, painting, vehicle maintenance and repair, and industrial cleaners



Understanding Chemical Use in SME's Project Specifics

- Protocol – Survey was administered by telephone and by site visits between February and June of 2002
 - A “heads-up” telephone call (4-6 weeks) to Eco-Businesses by Centre’s Technical Advisor
 - Second Call - the aim of the survey and time requirements were reiterated. Company representatives were given options of completing the survey at that time, setting up a telephone appointment to take the survey, or having Centre staff come out for the survey
 - Once the list of Eco-Business members had been exhausted, companies from the second list were contacted (cold-calling)

Understanding Chemical Use in SME's Project Specifics

- Results - Participation

- 118 companies were contacted about their chemical use
 - 54 eco-businesses
 - 64 other businesses within HRM
- Of the 118 contacted, 41 companies completed the survey (35%)
 - 30 eco-businesses (56%)
 - 11 other businesses within HRM (17%)

The other 77 companies that were contacted did not participate in the survey (not interested, did not have time, interested but never found time, no chemicals to report)

Only 7 companies requested a site-visit to complete the survey: the other surveys were completed by phone

Understanding Chemical Use in SME's Project Specifics

- Results – Chemical use within the 41 companies that participated in the survey
 - 6 out of the 41 SME's that completed the survey report, did not use any chemicals of concern or had virtually no chemical use
 - 16 out of the 41 businesses use chemical products that have CEPA Toxics and/or NPRI substances as ingredients (39%)
 - 225 chemical products were identified. Of these 225 chemical products:
 - 10 had CEPA Toxics as ingredients
 - 50 had NPRI substances as ingredients
 - 7 had both CEPA Toxics and NPRI substances as ingredients
 - 98 had neither CEPA toxic or NPRI ingredients
 - 74 were not confirmed as having either CEPA toxic or NPRI ingredients (for 14, it was felt they were unlikely to have these ingredients)



Understanding Chemical Use in SME's Project Specifics

- Secondary Results

- 19 businesses use disposal companies to dispose of their chemical waste
- 26 businesses have materials on hand to handle any chemical spills that occur
- Where water is needed for a process, as in the case of two plating companies, the water is treated on-site before being released into the sewer, or being reused
- All 5 printers used vegetable based inks, however 2 out of the 5 printers use oil based inks as well



Understanding Chemical Use in SME's General Comments

Generally, there was an overall lack of understanding of the types and quantities of chemicals in use by these companies. This was particularly evident in respect to CEPA toxic or NPRI chemicals.

While there was a lack of understanding of types and quantities of chemicals, companies were quite tuned in to requirements for disposal of chemicals and the value of using less toxic materials in their business (air quality, employee health, liabilities)

Many companies expressed an open-ness to trying alternative products that would be less toxic

Understanding Chemical Use in SME's

Follow-Up

35 companies that used chemical products were targeted for follow-up


Each company received a profile of their chemical use as reported. Information on any CEPA/NPRI products were specifically pointed out. Recommendations (alternative products/process changes/general housekeeping) were developed specific to each SME

Each company received a copy of the final summary report and references to resources

Centre developed 3 fact sheets pertaining to chemical use:

- Government Programs
- Opportunities and Best Practices
- Cleaning Compounds

Copies of these were provided to 35 companies



Understanding Chemical Use in SME's

Follow-Up

Broader level to other SMEs:

- Report, table of data collected, fact sheets all up on the Centre's website
- Article in the *Burnside News* reporting the general results

Understanding Chemical Use in SME's

Longer Term Follow-Up

Follow up phone calls to the 35 businesses after 3-6 months:

- General check-in
- Any changes in chemical use patterns since survey, any benefits
- Any additional information/assistance required

General Comments:

- Most of the companies indicated that the survey/follow-up materials had increased their awareness around their chemical usage
- Over half indicated they were actively seeking ways to reduce usage and alternatives

Specific Results:

- Water only clean-up of work area (elimination of detergents)
- Reduced use of chemicals through better housekeeping practices, more attention to usage patterns
- Switch to a biodegradable cleaner
- Substitution of remaining oil-based inks with vegetable based inks
- Upgrading to chemical work area – better labeling/signage, posting of MSDS
- Change in paint product – use one coat instead of two (reduced materials/labour costs)

Main Barriers in Project?

Telephone survey....

Cold calling

Validity of data

Identifying the chemicals in use

Speaking to appropriate personnel

Considerable difficulty in determining ingredients of brand name products. Lots of time/little in the way of results.