



Environment Accounts and Statistics Division





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Widening the P2 Circle:
Measuring Pollution Prevention in Canada

8th Canadian Pollution Prevention Roundtable

Ottawa, Ontario

April 28 & 29, 2004

Presented by Peter van Wesenbeeck



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Environment Accounts and Statistics Division



Who we are and what we do

- ***Environment Accounts and Statistics Division***
 - Survey section: Environmental Protection Accounts and Surveys
 - *Develops and manages 4 surveys that collect information on environmental expenditures, the environment industry and the waste management industry in Canada*



Environmental Surveys

- ***Environment Industry Survey (EIS)***
 - Supply of environmental goods and services – biennial
- ***Waste Management Industry Surveys: Business and Government***
 - Provision of waste management services - biennial
- ***Survey of Environmental Protection Expenditures (SEPE)***
 - Demand for environmental goods and services – biennial



Survey of Environmental Protection Expenditures

- ***Collects information on expenditures made by industry in response to environmental legislation, conventions or voluntary environmental agreements***
 - Capital and operating expenditures for:
 - Pollution prevention
 - Treatment and control of pollutants
 - Environmental monitoring
 - Environmental assessments and audits
 - Site reclamation and decommissioning
 - Protection and restoration of wildlife and habitat
 - Use of environmental processes and technologies

Who is surveyed:

- ***The survey is establishment-based and provides detailed information for primary and manufacturing industries***
- ***Consistently high response rate***



Overview

- *Pollution Prevention Practices*
- *Environmental Management Practices*
- *Adoption of Greenhouse Gas Emission Reduction Technologies*



What Types of Pollution Prevention Practices are used by businesses?

	'02	'00
	<u>percent</u>	
– Good operating practices or P2 training	74	79
– Prevention of leaks and spills	70	73
– The “4Rs”	65	67
– Equipment or process modifications	49	48
– Improved management or purchasing techniques	37	42
– Materials, feedstock or solvent substitution	31	34
– Product design or reformulation	22	24

- ***Overall, 88% of businesses indicated they used at least one type of pollution prevention process at their establishment***



Overview

- *Pollution Prevention Practices*
- ***Environmental Management Practices***
- *Adoption of Greenhouse Gas Emission Reduction Technologies*



Use of Environmental Management Practices

- ***Overall environmental management practices participation rates in 2002 stayed the same as in 2000 and 1998***
 - Across all industry groups, 72% of businesses participated in at least one
Most popular:
 - environmental management systems (56%)
 - publish or contribute to environmental performance report (41%)
 - participation in voluntary programs (29%)



Overview

- *Pollution Prevention Practices*
- *Environmental Management Practices*
- ***Adoption of Greenhouse Gas Emission Reduction Technologies***



Greenhouse Gas Emission Reduction Technologies

- ***Part of Action Plan 2000 on Climate Change***
Interdepartmental working group (Industry Canada, Environment Canada, NRCan)
- ***In 2002, the EIS and SEPE introduced new material that asked a series of questions to determine what kinds of technologies companies have adopted to reduce GHG emissions***



Greenhouse Gas Emission Reduction Technologies

- **Objectives**

- Determine the availability and use of GHG emission reduction technology solutions
- Evaluate current exports of GHG reduction related goods and services
- Identify barriers to the development and implementation of GHG reduction technologies

- **2002 and 2004 survey cycles**

- Funding covers period 2001-2002 to 2005-2006



Initial Results – GHG emission reduction techs

1) *GHG emission reduction in fossil-fuel related industries*

- only establishments involved in extraction, refining, transporting or distributing fossil fuels were asked this question
 - Overall, 87% of businesses in this group reported using systems or equipment to reduce fugitive or vented GHG emissions
 - 74% reported reducing all other GHG emissions



Initial Results – GHG emission reduction techs

2) *Use of energy conservation processes and technologies*

- Overall 40% of respondents reported employing at least one form of energy conservation
 - **Waste-to-energy – 14% of businesses across all industry groups**
 - 58% in Pulp, Paper & Paperboard Mill industry
 - **Solar energy – future looks bright**
 - almost half of Oil & Gas Extraction establishments
 - **Wind energy – blew away last year's numbers**
 - increased use in O&G Extraction & Electric Power industries



Initial Results – GHG emission reduction techs

3) Impact of GHG emission reduction technologies

- Adoption of new or significantly improved systems or equipment within a three year period (2000-2002)
 - Overall, one-quarter of establishments indicated adoption of a new or improved technology in the last three years
 - Close to nine out of ten reported a small or medium impact on emissions
 - Fossil-fuel related industries reported the greatest impact: well over half of establishments adopted new or improved techs, most of which had medium or large impact on emissions



Initial Results – GHG emission reduction techs

4) Obstacles and drivers to adoption of GHG emission reduction technologies

- Greatest obstacles: high cost and lack of financing of equipment

- Main driver was a sufficient return on investment
 - Indication that decisions are still mainly financially driven at this point; no firm public policy in place in '02 governing GHG emission reductions

- After return on investment, corporate policy was next greatest driver



To sum up...

- ***Pollution Prevention and Environmental Management***
 - overall participation rates remain relatively stable
 - some notable increases within individual industry groups
- ***Greenhouse Gas Emission reduction technologies***
 - energy sector largest user; significant impacts reported
 - use of energy conservation methods are lower than in 2000
 - main drivers to adoption are return on investment and corporate awareness
 - greatest obstacles: high cost of equipment & lack of financing



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Next steps...

- *release of expenditure data (summer '04)*
- *release of supply side data (summer '04)*
- *further analysis of 2002 data; report in fall '04*
- *preparation for 2004 survey; consultations with working group re: GHG material*



Further Information

- **Go to Statistics Canada's Website to download our survey reports for free:**
 - <http://www.statcan.ca> : Our Products and Services – Browse our Internet Publications - Free - Environment
- **Contact us at:** peter.van_wesenbeeck@statcan.ca
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