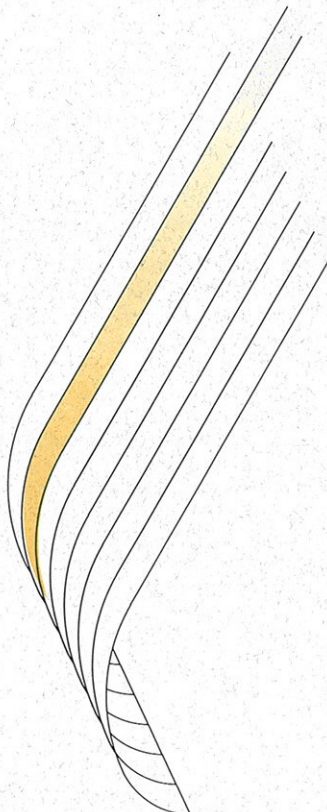




Reduction and Reuse: The First 2Rs of Waste Management



Waste management is one of the major environmental challenges of the 1990s. Many regions of Canada are already facing a critical shortage of landfill space, and there are growing concerns about the environmental impacts of traditional waste disposal methods.

Despite these concerns, Canadians continue to be among the most wasteful people in the world. Waste generation in Canada is estimated at 1.7 kg per capita per day; for comparison, waste generation in Sweden is estimated at only 0.8 kg per capita per day.

Recognizing the urgency of Canada's waste problem, the federal government, provincial and municipal governments, and concerned businesses and individuals have been working to reduce the amount of waste needing disposal. In April 1989, the then Canadian Council of Resource and Environment Ministers — now the Canadian Council of Ministers of the Environment — agreed that targets and schedules for waste minimization be established including a fifty percent (50%) reduction in waste generation by the year 2000.

To achieve this ambitious goal of a 50 percent reduction in waste, governments, the private sector, and individual Canadians are following the waste management hierarchy of the "4Rs": Reduction, Reuse, Recycling and Recovery.

The 4Rs

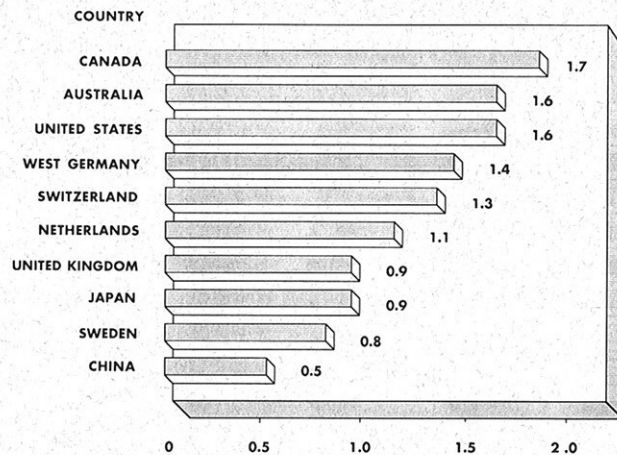
1. Wherever possible, waste **reduction** is the preferable option — it is best to produce as little waste as possible.
2. If waste is produced, every effort should be made to **reuse** it if at all practical.
3. **Recycling** is the third option in the waste management hierarchy. Although recycling does help to conserve resources and reduce wastes, it is important to remember that there are economic and environmental costs associated with waste collection and recycling processes. For this reason, recycling should really only be considered for waste which cannot be reduced or reused.
4. Finally, it may be possible to **recover** materials or energy from waste which cannot be reduced, reused or recycled.

Opportunities to reduce and reuse waste abound. Practising the first 2Rs of waste management can be as simple as changing household habits or as complex as altering industrial processes. The following examples highlight only a few of the many innovative approaches Canadians are employing in the fight against waste.

Residential Wastes

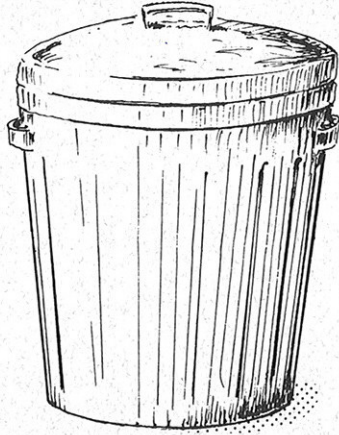
More and more concerned Canadians, recognizing that waste management is

Per Capita Waste Generation Select Countries Worldwide (1989)



kg/person/day

50% Reduction



1988



2000

everyone's responsibility, are changing their buying attitudes and household habits in order to reduce the amount of garbage they produce. Simple ways to reduce residential wastes include:

- buying beverages in refillable bottles,
- reusing plastic shopping bags and refusing excess packaging at the store,
- using rechargeable batteries,
- using cloth diapers instead of disposables,
- renting, rather than purchasing, items that will only be used a few times, and
- giving old clothing, furniture and appliances to local non-profit groups for reuse.

These are only a few of the ways the 2Rs can be practised in the home. Your local environmental groups can give you more suggestions.

- In the province of Prince Edward Island, beer and carbonated soft drinks are sold only in refillable bottles.
- At "household hazardous waste" collection days in many cities, paint exchanges help to reduce the amount of paint waste needing disposal. Still-usable paint brought to the exchange is given away free of charge. Some cities bulk waste paints for use by non-profit agencies and small businesses.
- Avalon Dairy Ltd. in Vancouver, British Columbia sells milk in returnable glass bottles.

Commercial and Institutional Wastes

Retail outlets, commercial offices and governments across the country are practising and encouraging the first 2Rs of reduction and reuse.

- The Loblaws grocery chain has reduced the size of its advertising flyers in order to reduce paper use, and has introduced reusable string shopping bags in selected stores.
- Many bulk food retailers across the country offer rebates to customers who bring their own containers for some products.
- Bell Canada telephone directories are now printed on a lighter paper stock to reduce paper use. A pilot test of directory covers made from recycled paper stock is also being carried out.
- Procter & Gamble Inc. has introduced "Enviro-Pak" refill pouches for several of its major household cleaning products. For some products, the pouches contain concentrate which can be mixed with water in the original product container; in other cases, the pouches contain replacement product. The polyethylene pouch contains 70 to 85 percent less plastic than the original bottle and thus results in less waste.
- More and more government and commercial facilities are carrying out waste minimization audits to identify how waste (and waste disposal charges) can

be reduced. For example, Ontario's Ministry of Government Services has embarked on a comprehensive program to reduce waste in provincial government facilities. This includes developing a waste audit process, and studying ways in which waste reduction considerations can be incorporated into the project design of buildings, renovations and repairs.

Reduction and Reuse in the Office

- Photocopy documents on both sides of the paper.
- Reuse envelopes.
- Use the back of used paper for notes and drafts.
- Use rechargeable batteries, and rechargeable toner cartridges for photocopiers and laser printers, where warranties permit.
- Review inventory and correspondence procedures to reduce waste.
- Provide beverages in refillable containers only.
- Investigate the potential of electronic mail systems to reduce paper use.

Industrial Wastes

Canadian industries have been making significant progress in reducing both solid and hazardous wastes. In many cases, federal, provincial and local government agencies are assisting.

- The Canadian Waste Materials Exchange (CWME) and provincial waste exchanges help industries get in touch with potential users of their wastes. Since it started in 1978, the CWME has assisted in the reuse and recycling of approximately 355,000 tonnes of waste from a variety of industries.
- At its Kingston, Ontario plant, Du Pont Canada Inc. reuses nylon by-products in the production of polymers for use in the manufacture of office furniture parts.
- The Ontario Waste Management Corporation produces an industrial waste audit and reduction manual designed to help industry identify waste reduction and reuse opportunities. The agency also provides waste reduction assistance through technical seminars.

■ In several provinces, the ON-SITE program provides assistance to companies seeking to reduce their wastes. This program, which is supported by a number of government and industry sponsors (including Environment Canada), provides companies with trained waste managers and technical assistance.

These are but a few of the examples of waste reduction and reuse activities across Canada. By taking a hard look at wastes, Canadians are finding new opportunities every day. In many cases, waste reduction results in unexpected benefits in terms of increased efficiency and productivity.

2Rs Buying Power

There are many opportunities to practise the first 2Rs when purchasing products. Recognizing this, purchasing managers in both the public and private sectors have been looking at purchasing policies from a waste reduction point of view. This involves developing policies and methods to encourage the purchase of products which:

- are reusable or contain reusable parts,
- make efficient use of resources,
- have a long service life and/or can be economically and effectively repaired,
- are recyclable, and/or
- contain recycled materials.

In Ontario, all levels of government are working together through the GIPPER (Governments Incorporating Procurement Policies to Eliminate Refuse) Committee, to develop government purchasing policies that will help reduce waste and encourage the purchase of products made from recycled materials. Members of this committee include representatives from federal and provincial environment and supply departments, municipal governments in Metropolitan Toronto, the greater Toronto regional governments, the Canadian Standards Association, and the Federation of Canadian Municipalities.

These and other activities being undertaken by concerned Canadians represent a promising start. The challenge of the 1990s will be to incorporate consideration of the first 2Rs of waste management into all aspects of our daily lives.

This factsheet is part of the Office of Waste Management's "Rainbow Series". Each colour in the rainbow represents one waste management activity as follows:

- 1) Pink - Classification
- 2) Orange - 4Rs (Reduction, Reuse, Recycling, Recovery)
- 3) Yellow - Transportation
- 4) Light Green - Storage
- 5) Dark Green - Treatment
- 6) Blue - Disposal
- 7) Purple - Waste Types

Further information can be obtained from:

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