



ONTARIO: OPEN FOR TOXICS

REPORT SUMMARY
& EXCERPTS

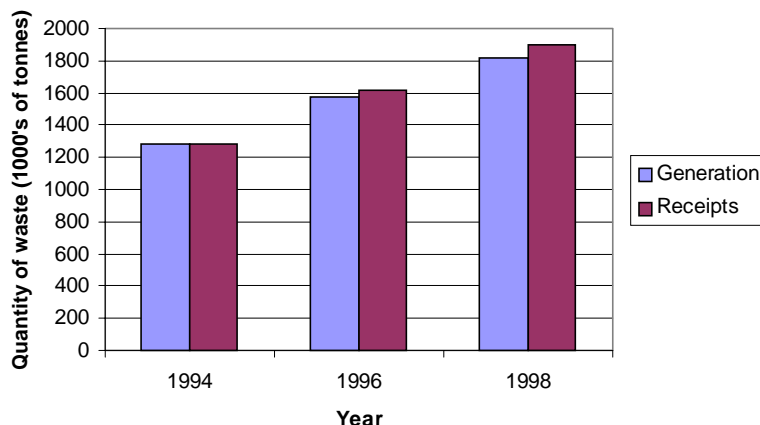
Hazardous waste disposal becomes a growth industry in Ontario

From 1994 to 1998, Ontario has experienced significant growth in the generation and receipt of hazardous waste. In this four-year period, hazardous-waste generation in the province has increased by 535,000 tonnes, equivalent to an average annual growth rate of 10% or a total increase of 42%. Hazardous waste quantities received by sites in Ontario have grown by 12% annually — Ontario sites received 614,000 more tonnes of hazardous waste in 1998 than they did in 1994. The growth rate for hazardous waste generation and receipts in Ontario was three times (or more in the case of imports) that of the growth of the province's Gross Domestic Product (GDP) for the same period.

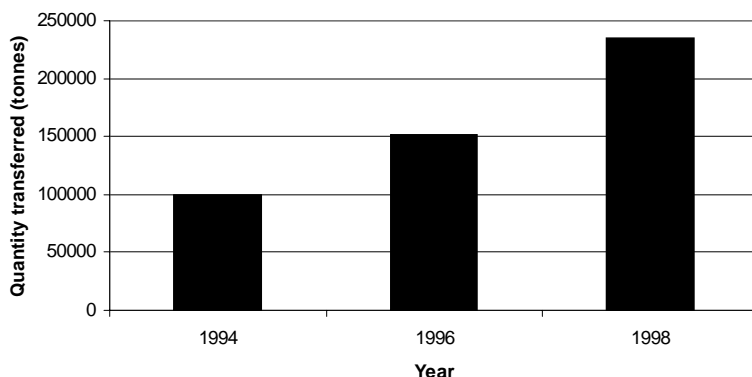
In 1998, landfill-leachate waste was the primary waste type received by Ontario receiving sites, followed by transfer-station oil waste. Facilities owned by environmental-services companies, including Safety-Kleen and Philip Services, received the greatest quantities of non-leachate hazardous wastes, while water pollution-control plants received the greatest quantities of landfill-leachate wastes. Most of the hazardous wastes received in 1998 went to sites in the districts of Sarnia, Hamilton, Guelph and Ottawa, which cumulatively received 60% of the hazardous waste received in Ontario.

The growth in hazardous waste transfers to receiving sites in Ontario from 1994 to 1998 was due in great part to increased quantities of hazardous waste transferred from generating sites within the province. However, waste transfers from U.S. generators to Ontario receiving sites doubled within the four-year period. By 1998, hazardous waste transferred from U.S. generating sites accounted for 12% of hazardous waste received in the province. In 1994, U.S. waste accounted for only 8% of hazardous waste received in Ontario.

**Hazardous waste generation and receipts
in Ontario, 1994 to 1998**



**Quantity of U.S. hazardous waste
transferred to Ontario receiving sites,
1994 to 1998**



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Top receiving districts of non-leachate hazardous waste in Ontario, 1998

Rank	Receiving district	Quantity received (tonnes)
1	Sarnia	422,665
2	Guelph	221,436
3	Hamilton	218,449
4	Burlington	105,397
5	St.Catharines	72,836
6	Toronto	50,990
7	London	36,608
8	York and Durham Regions	35,020
9	Windsor	34,567
10	Ottawa	24,286

Top 10 hazardous waste generating districts in Ontario, 1998

Rank	Generating district ¹¹	Quantity generated (tonnes)
1	Hamilton	299,660
2	Ottawa	227,698
3	Burlington	217,797
4	Windsor	177,059
5	Sarnia	143,517
6	London	137,153
7	St.Catharines	111,920
8	York and Durham Regions	110,901
9	Barrie	87,447
10	Guelph	86,335

Top 10 waste types generated in Ontario, 1998

Rank	Waste type	Quantity (tonnes)	% of total generated in 1998
1	Landfill leachate wastes	622,179	34.2%
2	Transfer station oils wastes	185,445	10.2%
3	Steel making residues	98,265	5.4%
4	Oil skimmings and sludges	94,049	5.2%
5	Emulsified oils	71,055	3.9%
6	Other specified inorganics	70,731	3.9%
7	Waste oils and lubricants	66,912	3.7%
8	Halogenated solvents	66,880	3.7%
9	Alkaline wastes - other metals	61,565	3.4%
10	Other specified organics	58,573	3.2%



For copies of the full report or more information on hazardous waste in Ontario, please see our website: www.cielap.org



The Environmental Implications of Increasing Hazardous Waste Generation and Transfers

The substances and materials constituting the hazardous waste generated and received in Ontario pose a range of potential threats to the environment and human health and safety. The most obvious problems are associated with wastes that are reactive, explosive, corrosive, infectious and radioactive.

In addition, a wide range of components of the waste stream in the province have properties that are harmful to human health or the environment in other ways. For example, steel making residues and other waste types have high metal concentrations. Many of these heavy metals, such as lead, mercury and cadmium, for example, are classified as "toxic" substances under the *Canadian Environmental Protection Act (CEPA)*², and are known to be acutely toxic in high concentrations, and at lower levels may have deleterious effects on various human organs. Other metals, such as arsenic are classified as "toxic" under CEPA and are listed as human carcinogens by the International Cancer Research Centre (ICRC).³

The Hazardous Waste Manifest database identified the generation and receiving of organic compounds at sites in the province from 1994 to 1998. A number of organic compounds are also on the ICRC list of human carcinogens including chloroform, tetrachloroethylene, carbon tetrachloride and benzene.⁴ Other persistent organic compounds have been linked to immune system dysfunction, adverse impacts on the nervous system, bone marrow damage, and have been implicated as endocrine disrupting substances.

As highlighted in Figure 31 (page 55), increasing quantities of hazardous wastes are being received by water pollution control plants (WPCPs), landfills and transfer stations (including processing) in Ontario. There are environmental concerns and risks associated with hazardous wastes being received at these facilities.

Hazardous wastes being received at water pollution control plants (WPCPs) pose a concern as these facilities are designed generally to deal with organic waste. As a result, many toxic substances pass intact through the plants to receiving waterways, where they contribute to overall contamination of the environment. Concerns have also been raised about the disruption of sewage treatment processes than can be caused by toxic substances, resulting in the release of large quantities of untreated or partially treated sewage to the environment.⁵

Lastly, the increased transfer of hazardous wastes from generating facilities to receiving facilities in the province means that more wastes are being transported throughout the province via highways and railways. This raises the risk of accidents and spills, increasing the risk of exposure to hazardous wastes for communities through which these wastes are transported.

Top 10 generating sites of non-leachate wastes in Ontario, 1998

Rank	Generator	Generating site	City	Quantity generated (tonnes)
1	Philip Enterprises Inc.	799-800 Parkdale Ave N.	Hamilton	62,560
2	Dofasco Inc.	Bayfront Plant	Hamilton	42,382
3	Dow Chemical Canada Inc.	Dow Scott Road Landfill	Sarnia	42,339
4	General Motors of Canada Ltd.	570 Glendale Ave.	St.Catharines	32,837
5	Safety-Kleen Canada Inc.	23 Regan Road	Brampton	28,204
6	Dofasco Inc.	Kenilworth Plant	Hamilton	27,335
7	Co-steel Lasco	Hopkins Street South	Whitby	23,988
8	Laidlaw Environmental	2258 River Road	London	21,356
9	Imperial Oil	Area 1, Area 2, Research Buildings	Sarnia	19,118
10	Lynx Environmental	4505 Fourth Street	Windsor	17,784

Top 10 Ontario receiving sites of non-leachate wastes, 1998

Rank	Receiver	Receiving site	City	Quantity received (tonnes)
1	Safety-Kleen Ltd.	Landfill, Lot 9/Pt. Lot 8, Concession 10	Moore Township (Corunna)	254,270
2	Safety-Kleen Canada Inc.	300 Woolwich Street South	Breslau	129,613
3	Philip Enterprises Inc.	52 Imperial Street	Hamilton	85,012
4	Safety-Kleen Ltd.	Incinerator, Lot 9, Concession.10	Moore Township (Corunna)	69,430
5	Philip Environmental Services Corp.	800 Parkdale Avenue	Hamilton	52,099
6	Dow Chemical of Canada Ltd.	Scott Road landfill	Sarnia	51,695
7	Philip Enterprises Inc.	112 Adams Blvd.	Brantford	45,314
8	General Motors of Canada Ltd.	285 Ontario St.	St.Catharines	38,441
9	Philip Enterprises Inc.	55 Vulcan St.	Toronto	34,406
10	Safety-Kleen Ltd.	Part Lot 1, Concession A	Middlesex County (London district)	32,071

Hazardous Waste Management in Ontario and the U.S.

ENVIRONMENTAL PROTECTION REQUIREMENT	U.S.	ONTARIO
Companies that produce or generate hazardous wastes must:		
* register with environmental protection authorities	Yes	Yes
* report annually or biannually to environmental protection authorities	Yes	No
* follow strict and detailed on-site hazardous waste identification and storage requirements (including emergency planning requirements for large quantity generators)	Yes	No
Companies that transport hazardous wastes must:		
* complete a manifest detailing materials being transported and destination	Yes	Yes
* immediately take measures to contain an accidental spill and report accidental spills to authorities	Yes	Yes
Companies that store, treat, and dispose of hazardous wastes must:		
* apply for permission (by permit or certificate of approval) to operate	Yes	Yes
* provide financial assurance against environmental harm as part of permitting process	Yes	Yes
* have insurance against accidental liability	Yes	No
* analyse all incoming waste to ensure that it conforms both to the description on the waste manifest and to the categories of waste the site is permitted to receive	Yes	No
* make biennial reports on quantities and kinds of wastes received	Yes	No
* provide for groundwater quality monitoring in the area of the site	Yes	No
* have a plan in place to deal with emergencies	Yes	No
* control all dispersion by wind and rainwater of hazardous materials	Yes	No
Environmental protection authorities require by law that:		
* no permit is issued without full and ongoing public involvement in decision-making about the placement and operations of hazardous waste treatment storage and disposal sites	Yes	No*
* hazardous wastes are treated before they are disposed in landfill	Yes	No
* financial assurances reflect the cost of 'most expensive closure'	Yes	No
* information received from waste generators and waste treatment facilities is published in publicly-available documents every two years	Yes	No
The environmental protection authority has legal standards for:		
* Hazardous Waste Containers	Yes	No
* Hazardous Waste Storage Tanks	Yes	No
* Hazardous Waste Containment Buildings	Yes	No
* Hazardous Waste Land Treatment Units	Yes	No
* Hazardous Waste Surface Impoundments and Waste Piles	Yes	No
* Hazardous Waste Incinerators, Boilers and Industrial Furnaces	Yes	No
* Public involvement in Ontario is limited to what rights may be available under environmental assessment legislation and/or the Environmental Bill of Rights		