

**QUÉBEC RESIDUAL MATERIALS MANAGEMENT
POLICY**

1998-2008

(The French version prevails)

TABLE OF CONTENTS

Foreword

Part 1: Background

Part 2: Principles

Part 3: Purpose

Part 4: Goals

Part 5: Actions

- 5.1 Residual materials management planning
- 5.2 Citizen participation
- 5.3 Education and information
- 5.4 Research and development
- 5.5 Support for social economy businesses
- 5.6 Residual materials recovery and reclamation
 - 5.6.1 Strengthening of selective municipal collection
 - 5.6.2 Recovery of putrescible material
 - 5.6.3 Recovery of households hazardous materials
 - 5.6.4 Recovery of construction, renovation and demolition debris
 - 5.6.5 Reduction and recovery of industrial, commercial and institutional materials
 - 5.6.6 Recovery of non-refillable beer and soft drink containers
 - 5.6.7 Recovery of used tires
 - 5.6.8 Reclamation of municipal and industrial sludge
- 5.7 Disposal
 - 5.7.1 Technical landfill sites
 - 5.7.2 Dry materials disposal sites
 - 5.7.3 Post-closure monitoring of disposal sites
 - 5.7.4 In-trench disposal sites
 - 5.7.5 Incineration
 - 5.7.6 Waste disposal in the North
- 5.8 Role of Recyc-Québec
- 5.9 Implementation monitoring

Conclusion

FOREWORD

The Act to amend the Environment Quality Act and other legislation as regards the management of residual materials (1999, chapter 75) established that the Québec Action Plan for Waste Management, 1998-2008, made public by the Minister of the Environment and amended to comply with the provisions of the Act, makes up the government Residual Materials Management Policy.

Section 53 of this Act provides that once published in the *Gazette officielle* the Policy is deemed to satisfy the requirements of section 53.4 of the Environment Quality Act and remains into force until it is amended or replaced, in accordance with the provisions of this section.

The purpose of this document is to make known the government Residual Materials Management Policy made pursuant to section 53.4 of the Environment Quality Act.

I – Background

In the 20th century, the industrial nations were devoted to satisfying our ever-growing consumer needs. To do so, they extracted and processed extensive natural resources. Today, we know that these resources are limited and that extractive and manufacturing activities are responsible for our major pollution problems: water pollution, global warming due to greenhouse gases, soil contamination and erosion, ecosystem degradation and loss of biodiversity. Part of the solution to these problems is sound residual materials management. Recovering useful materials and recycling them back into the production stream generally has the same effect as source reduction, namely, reducing the need for virgin materials along with pollution generated by their processing.

Putrescible materials are the main source of contamination in disposal sites. In landfills, their decomposition in the absence of oxygen produces malodorous, explosive gases that contribute to the greenhouse effect. The organic compounds released by the decomposition migrate with leachates and can contaminate surface and groundwaters, making them unfit for human consumption and even harmful to aquatic life. Removing putrescible materials from the waste stream therefore reduces the pollutant load in disposal sites and can be a valuable source of compost, which helps improve soil quality while cutting back on the need for fertilizers and pesticides.

Minimizing the amount of waste entering landfills reduces the rate at which they are filled, thereby extending their life span and restricting the need for replacement sites.

It was to meet these challenges that, in 1989, the Québec government adopted an integrated solid waste management policy, which targeted a 50 percent reduction in the quantity of waste sent for disposal by the year 2000. In 1989, 5.7 million tonnes of residual materials, of the 7 million tonnes generated, went for disposal, leaving a recovered volume of just under 1.3 million tonnes. Ten years later, the total quantity generated had risen to 8.3 million tonnes, with 5.3 million tonnes being discarded. This meant that 3 million tonnes were being reused, more than double the 1989 amount. However, given the 1.3-million-tonne increase in total residual materials generated, the reduction rate had reached only 10.8 percent, a far cry from the 50 percent initially sought.

The 1989 policy also targeted safer disposal methods, but Québec's regulatory standards governing waste disposal were only reviewed for new disposal sites authorized from 1993 onward under the environmental assessment procedure.

The Québec Residual Materials Management Policy therefore proposes a management system that is more environmentally sound while supporting Québec's social and economic development.

2 – Principles

The actions proposed in this Policy are premised on the following fundamental principles of waste management:

4R-D

Unless an environmental analysis indicates otherwise, waste management options should be considered according to the following hierarchy: source reduction, reuse, recycling, resource recovery and disposal.

Greater producer responsibility

Manufacturers and importers assume greater responsibility for the environmental effects of their products throughout their life cycle, including the upstream effects inherent in the choice of product components, the effects of the manufacturing process as such and the downstream effects resulting from the product's use and disposal.

Citizen participation

Citizen participation in the development and monitoring of measures targeting ecologically sound waste management is essential to achieving our goals. The general public must have access to relevant information and to the appropriate forums during the decision-making process.

Regionalization

Waste management decisions and their implementation are made at the regional municipality level in accordance with the powers of municipal authorities.

Partnership

By fully assuming their role, mission and responsibilities, all stakeholders contribute in a coherent, concerted and complementary manner to implementing the measures designed to achieve the set goals.

3 – Purpose

The purpose of the Québec Residual Materials Management Policy is:

- 1° to prevent or reduce the production of residual materials, particularly by targeting product manufacturing and marketing;
- 2° to promote residual materials recovery and reclamation;
- 3° to reduce the quantity of residual materials sent for disposal and ensure the safe management of disposal sites;
- 4° to make manufacturers and importers take into consideration the environmental effects of their products and the costs related to the recovery, reclamation and disposal of the residual materials generated by these products.

4 – Goals

One way to help ensure sustainable resource use is through better management of residual materials as a resource. The main goal of this Policy is to recover 65 percent of the 7.1 million tonnes of residual materials that can be reclaimed each year. This goal can only be reached, however, if all sectors of society do their part. The following recovery goals have therefore been set for each sector and material category¹.

Municipalities:

- 60 percent of glass, plastics, metals, fibres, bulky waste and putrescible material;
- 75 percent of oils, paints, and pesticides (household hazardous materials);
- 50 percent of textiles;
- 80 percent of non-refillable beer and soft drink containers.

Industrial, commercial and institutional establishments:

- 85 percent of tires²;
- 95 percent of metals and glass;
- 70 percent of plastics and fibres, including wood material;
- 60 percent of putrescible material.

Construction, renovation and demolition sector:

- 60 percent of all recoverable resources.

Attaining these targets will increase Québec's resource recovery rate from 3 086 590 tonnes in 1996 to 4 793 000 tonnes in 2008. By that time, only ultimate waste, i.e. materials that can no longer be reused, recycled or reclaimed, should be going for disposal.

The second fundamental goal of the Policy is to ensure that disposal methods are safe for public health and the environment.

¹ Appended is a table showing the recovery goals for 2008 and recovery rates in 1996 by source and container or materials category.

² Used tires are discarded just as much by consumers as industrial, commercial and institutional establishments. They have been included in the ICI category to simplify presentation.

5 – Actions

5.1 Residual materials management planning

All Québec regional municipalities³ must have a residual materials management plan in place no later than two years following the coming into force of appropriate legislative provisions. When a management plan is implemented, it binds the local municipalities which are required to abide by it without any possibility of dropping out. It is also binding on the government which must comply with its provisions when authorizing materials recovery, reclamation and disposal facilities.

Management plans are updated every five years and can be amended at any time. They target all residual materials with the exception of hazardous materials other than household materials, biomedical waste, mine tailings, contaminated soils containing contaminants in quantity or concentration above regulatory criteria, and gaseous materials. Management plans must contain the following information:

- 1° description of territory covered by the plan;
- 2° names of local municipalities targeted by the plan and a list of intermunicipal agreements pertaining to residual materials management applicable to the territory in whole or in part;
- 3° list of organizations and firms that carry out residual materials recovery, reclamation or disposal activities within the territory;
- 4° inventory of residual materials generated in the territory, whether of domestic, industrial, commercial, institutional or other source, by materials category;
- 5° statement of residual materials recovery, reclamation and disposal orientations and goals to be fulfilled, as well as a description of services required to achieve these goals;
- 6° list of recovery, reclamation and disposal facilities in the territory; where applicable, the need of any new facility to fulfill the aforementioned goals and, if need be, the possibility of using facilities outside the territory;
- 7° plan implementation proposal favouring citizen participation and the cooperation of organizations and firms involved in residual materials management;
- 8° budgetary proposals and a plan implementation timetable;
- 9° plan monitoring and follow-up system intended to verify the plan's application periodically, namely, goal fulfilment and efficiency of implementation measures taken by regional municipalities or local municipalities targeted by the plan.

Regional municipalities may restrict or prohibit the disposal of non-region material in their territory. If they choose to exercise this right, they must say so in their management plan and indicate, in the case of a restriction, the quantity of residual materials targeted. This measure will take effect at the same time as the management plans and apply to all new projects to establish or expand a disposal site, whether public or privately operated, to the exclusion of a disposal facility belonging to a firm which uses it exclusively to dispose of the residual materials it generates. In addition, this measure can not apply to residual materials generated by a pulp and paper mill.

Before taking effect, and whenever they are updated, management plans must be submitted to the Minister of the Environment for approval. The Minister may order that

³ A regional municipality includes a metropolitan community, an urban community or a regional county municipality which is responsible for developing a residual materials management plan.

changes be made to the plan, if he deems it does not reflect the government's policy or if the right to restrict or prohibit the disposal of non-region wastes is liable to compromise public health and safety. Where the regional municipality does not modify its plan to the satisfaction of the Minister, the Minister may exercise his regulatory powers in lieu of the municipality to make the plan consistent with the government policy or prevent any public health and safety hazard.

5.2 Citizen participation

Regional municipalities are required to establish adequate mechanisms to foster public participation early in the development and monitoring stages.

A public consultation on the proposed plan must be held via a commission set up by the regional municipal council and consisting of no more than ten members appointed by the council, with at least one business representative, one union representative, one community representative and one environmental protection group representative.

The commission must hold a public meeting in at least two local municipalities located in the territory of the regional municipality concerned. It is responsible for defining its modes of operation and consultation and must report to the public and the Minister.

When new disposal sites are authorized by order of the government, operators are required to set up watchdog committees and assume the cost. This requirement will be extended to existing disposal sites designated by regulation. The purpose of the committees is to ensure monitoring of the sites during operation, closure and post-closure and to inform the population.

5.3 Education and information

Environmental education activities and information on new ways to participate in sustainable residual materials management are crucial. Public information and educational materials adapted to the different stakeholder groups must be developed and made readily accessible to as many individuals and groups as possible.

5.4 Research and development

The materials recovery and reclamation industry must constantly adapt its methods and technologies in order to respond to the new challenges facing it all the time. In addition to continued access to regular support programs for technological innovation, firms require new forms of support to be able to evolve in pace with the industry.

5.5 Support for social economy businesses

A significant and increasing proportion of recovery, reuse and recycling is performed by social economy businesses that create lasting, quality jobs, produce goods and services and help divert material from the waste stream for new purposes.

Many of these businesses have also taken it upon themselves to train, inform and sensitize their staff and customers to more environmentally responsible residual materials management practices. This makes them a valuable asset in our efforts to improve environmental health, preserve quality of life and create employment, which is why they must play a prominent role in our plans for sustainable residual materials management.

To help this sector of the Québec economy grow, the government will contribute financially to the establishment, development and consolidation of social economy businesses operating in the area of residual materials recovery and reclamation.

5.6 Residual materials recovery and reclamation

5.6.1 Strengthening of selective municipal collection

Businesses must be made responsible for the products they market and which become residual materials once used. That is why the government will adopt a regulation requiring of industrial or commercial businesses which manufacture or market or otherwise distribute in Québec containers, packaging or print material that they assume the major portion of the costs of selective waste collection. The regulation will set recovery targets, require businesses to report on their progress in meeting targets and provide for fines and sanctions in the event of non-compliance.

To meet this requirement, businesses targeted will have the choice of setting up their own recovery system or delegating an organization, accredited by the Minister of the Environment, to represent them and support financially selective municipal collection.

Businesses that choose to be represented by a government-accredited organization will have six months following the regulation's coming into effect to enter into an agreement with the Minister of the Environment. The agreement will set the recovery targets, which can not be lower than those provided for by regulation. The financing standards and criteria will be defined and approved by the Minister under the agreement and will be established on the basis of effective and efficient selective municipal collection programs.

5.6.2 Recovery of putrescible material

Putrescible material is most likely to cause major contamination in landfills. When composted, it can be used to improve the quality of soils. It is therefore important to progressively recover this material in as great a quantity as possible. Municipalities will be subject to the regulatory obligation to recover surplus grass clippings and leaves.

5.6.3 Recovery of households hazardous materials

Some residential wastes can be hazardous; for example, used oils, certain paints, solvents, pesticides, and batteries. Diverting them from the waste stream to reuse them whenever possible is therefore important.

The government will enact regulations making recovery and treatment of the hazardous materials manufactured and marketed by businesses mandatory. To meet this requirement, businesses will have the choice of setting up their own recovery system or delegating an organization, accredited by the Minister of the Environment, to represent them.

5.6.4 Recovery of construction, renovation and demolition debris

More than 90 percent of construction, renovation and demolition debris can be used for other purposes, yet large quantities are still being sent, at low cost, to dry materials sites. In order to stimulate the recovery of these materials, the new regulation on the disposal of residual materials will prohibit the establishment and expansion of dry materials disposal sites in Québec. The gradual elimination of these sites will force construction and demolition waste generators who wish to get rid of these materials to direct them to a sanitary landfill, at a much higher cost.

Existing dry materials disposal sites will be allowed to continue receiving waste for the authorized term of operation in order to complete site rehabilitation. However, the standards governing their operation will be tightened. Projects that have already been submitted for environmental impact assessment and review will be studied on a case-by-case basis according to the recovery and disposal needs of the targeted community or communities.

Given that segregated concrete, asphalt and brick do not represent an environmental risk, their reuse will be encouraged. As long as they meet certain quality criteria, they can be reused for backfilling, repair or construction purposes. Construction, renovation or demolition debris containing wood, gypsum, textiles or any other non-inert material, will have to be directed, with the gradual closure of existing dry materials disposal sites, to either authorized processing centres or sanitary landfill sites.

5.6.5 Reduction and recovery of industrial, commercial and institutional materials

Industries, commercial establishments and institutions recover 66 percent of the residual materials with a potential for recovery that they generate in a year. They must be lauded for this strong performance and encouraged to continue their efforts.

An environmental program that recognizes reduction and recovery initiatives by industrial, commercial and institutional establishments will be set up and the results will be made public.

Those businesses that attain the reduction and recovery targets established with the Minister of the Environment will receive official recognition from the government, which they may use to promote their product(s) on domestic and export markets.

For its part, the government must set an example as a major institution whose agencies purchase and consume large quantities of goods and products. It must work towards waste reduction and recovery the same as any other institution and stimulate the market for recycled goods.

The government commits to making waste audits and reduction plans part of its regular management activities. It will also strengthen the environmental content of its procurement policy by giving priority to products that are better for the environment, such as recycled paint and oil, and construction, renovation and demolition debris, so as to support the markets for these secondary materials.

5.6.6 Recovery of non-refillable beer and soft drink containers

With a return rate of 76 percent on non-refillable beer and soft drink containers at retailers, the deposit-return system is no longer self-financing. Like other enterprises marketing products in Québec, the brewery industry and soft drink bottlers will be responsible for funding the recovery of waste generated by their products. The terms for financing will be established by agreement with the Minister of the Environment.

5.6.7 Recovery of used tires

Retailers apply a non-refundable levy to the sale of new tires. The monies generated by this program are used by the government to cover the costs of recycling used tires generated in Québec each year. They are also used to financially support businesses that reuse or recycle scrap tires, or burn them to produce energy. The program will also help to empty all used tire storage sites.

5.6.8 Reclamation of municipal and industrial sludge

Knowing the properties of sludge, which vary according to the source, is essential to assessing its recovery potential. Hence, regional municipalities will be required to establish master plans for managing industrial and municipal sewage sludges. These plans will be an integral part of the residual materials management plan and will aim to identify the source, quantity and quality of the different categories of sludge generated in the territory and determine, where environmentally beneficial, whether recovery is possible. The ultimate goal is to ensure that no sludge is landfilled until it has been demonstrated that recovery is not an economically viable option.

5.7 Disposal

As of June 14, 1993, when authorizing a disposal site the government may set standards different from those provided by regulation if it deems increased environmental

protection is needed. These more stringent protection standards will be incorporated into the regulation governing disposal activities.

5.7.1 Technical landfill sites

Québec's landfill standards need to be tightened to ensure greater protection of human health and the environment. A new regulation on residual materials disposal will be adopted to that end.

New landfill requirements will mainly target:

- watertight landfill cells to ensure maximum protection of groundwater;
- leachate collection and, where necessary, treatment systems to protect groundwater, surface water and the quality of receiving environments;
- safe collection and release or burning of biogas.

5.7.2 Dry materials disposal sites

Dry materials disposal sites will be subject to more stringent safety standards. The new regulation respecting residual materials disposal will require site owners to monitor groundwater and surface water quality, among other things.

5.7.3 Post-closure monitoring of disposal sites

By order of the government, and under the authorizations it issues in compliance with the environmental impact assessment and review procedure, operators are required to establish financial guarantees in the form of a trust fund for the post-closure monitoring of disposal sites. This requirement will be extended to existing disposal sites designated by regulation.

5.7.4 In-trench disposal sites

In order to reduce in-trench disposal of waste materials, given its impact on water quality, the number of in-trench sites will be limited.

Moreover, site owners will be required to monitor groundwater and surface water quality.

5.7.5 Incineration

Because incinerators require substantial capital expenditures to operate, a sustained supply of residuals is needed to make them profitable. This can slow the attainment of recovery goals.

Projects to operate or increase the capacity of an incinerator will be authorized only if the proponent can demonstrate that incineration does not conflict with the recovery targets. All new incinerators having a capacity of over two metric tons per hour must be designed to recover energy from the burning of waste.

Furthermore, tighter standards governing gas and particle emissions will be adopted.

5.7.6 Waste disposal in the North

Northern municipalities and communities generally manage their waste by depositing it in open dumps. Since the ground is frozen for most of the year, the waste piles up and is then burned at prescribed intervals.

The use of small incinerators would help to reduce reliance on this form of disposal which entails environmental and health hazards. A pilot project to assess the environmental acceptability of burning waste in small incinerators should be carried out. If the results are satisfactory, small-scale incineration will be allowed and encouraged.

5.8 Role of Recyc-Québec

Recyc-Québec is responsible for coordinating recovery initiatives proposed in this policy with a view to consistency and complementarity. More specifically, it will:

- help set up industrial residuals recovery and reclamation agencies accredited by the Minister and monitor agreements entered into with the Minister;
- develop and manage a knowledge system for tracking the achievement of sectoral and overall residual materials recovery goals;
- administer any financial assistance program upon request of the Minister or the government;
- foster the development of markets for secondary materials in partnership with the industries concerned;
- advise regional municipalities, management boards or any other body mandated by the municipalities on the establishment of residual materials management plans.

5.9 Implementation monitoring

A report on the implementation of this policy will be published every two years. Furthermore, the Policy itself will be reviewed five years after its coming into effect and the management directions revised as necessary based on the results of source reduction and recovery efforts.

CONCLUSION

This Residual Materials Management Policy 1998-2008 encourages all municipal, industrial and environmental stakeholders, along with Quebeckers in general, to join forces with the government to work towards greater protection of human health and the environment through sound residual materials management.

APPENDIX

RECOVERY GOALS FOR 2008 BY SOURCE AND MATERIAL RECOVERED, AND QUANTITIES RECOVERED IN 1996

MUNICIPAL	Recoverable volume (x 1000 tonnes)	Recovery rate		Materials recovered in 1996 (x 1000 tonnes)
		Goal (%)	Tonnage (x 1000 tonnes)	
Recyclable materials				
Total fibres	555	60%	333	198
Refundable containers	42	80%	34	29
Non-refundable containers	260	60%	156	62
Non-refundable aluminum	12	20%	2	N/A
SUBTOTAL	869	60%	525	289
Putrescible materials				
Putrescible residues	589	60%	353	N/A
Clippings, leaves	221	60%	133	N/A
SUBTOTAL	810	60%	486	84
Reusable products				
Textiles	54	50%	27	10
Bulky waste	273	60%	164	102
SUBTOTAL	327	58%	191	112
Hazardous materials	27	60%	16	3
TOTAL MUNICIPAL	2 033		1 218	488

INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL	Recoverable volume (x 1000 tonnes)	Recovery rate		Materials recovered in 1996 (x 1000 tonnes)
		Goal (%)	Tonnage (x 1000 tonnes)	
Recyclable materials				
Paper and packaging	882	70%	617	598
Glass	38	95%	36	36
Plastics	162	70%	113	26
Metals	1 081	95%	1 027	1 001
Textiles	N/A	70%	N/A	17
SUBTOTAL	2 162	83%	1 793	1 677
Putrescible materials				
Wood	202	70%	142	N/A
Putrescible residues	188	60%	113	N/A
SUBTOTAL	390	65%	254	30
Tires	63	85%	54	17
TOTAL ICI	2 615	80%	2 101	1 724

CONSTRUCTION AND DEMOLITION	Recoverable volume (x 1000 tonnes)	Recovery rate		Materials recovered in 1996 (x 1000 tonnes)
		Goal (%)	Tonnage (x 1000 tonnes)	
Recoverable				
Paper and packaging	75	60%	45	N/A
Steel	81	60%	49	N/A
Aggregate	1 908	60%	1 145	N/A
Wood	394	60%	236	N/A
TOTAL C & D	2 458	60%	1 475	875

GRAND TOTAL				
Quantity generated (x 1000 tonnes)	Recoverable volume (x 1000 tonnes)	Recovery rate Goal (%)	Tonnage (x 1000 tonnes)	Materials recovered in 1996 (x 1000 tonnes)
8 312	7 106	67%	4 793	3 088