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FINAL  
REPORT

## NOVA SCOTIA ENVIRONMENT AND LABOUR

Atlantic Provinces Solid Waste-Resource  
Cooperative Initiative



Project No.: 017238-0001

February 2007



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**9001**

**Atlantic Provinces Solid Waste-Resource Cooperative Initiative**

**FINAL REPORT**

**Prepared for:**

**NOVA SCOTIA ENVIRONMENT AND LABOUR**

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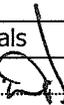
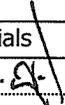
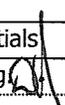
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February 2007

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**Attention: Mr. Robert Kenney**  
**Solid Waste-Resource Analyst**

Dear Mr. Kenney:

**RE: Atlantic Provinces Solid Waste-Resource Cooperative Initiative –  
Final Report**

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SNC-Lavalin Inc. is pleased to submit five (5) hard copies and four electronic copies (CD-ROM) of our Final Report for the above referenced project. If we can be of service to you in the future, please do not hesitate to contact the undersigned.

Yours truly,

**SNC-LAVALIN Inc.**

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DH/mmt

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## EXECUTIVE SUMMARY

This report presents the results of a work program designed to identify, where appropriate and feasible, opportunities to collaborate on, and harmonize the policy and regulatory aspects of, existing waste diversion and recycling programs in Atlantic Canada. By taking a regional perspective the study looks at how each province may strengthen their resource recovery effectiveness and maximize both economic and employment opportunities.

All four provinces have made significant progress towards responsible solid waste management and resource recovery. Each province recognizes the social, economic and environmental value of maximizing waste diversion and resource recovery.

The study team applied the following criteria to identify candidate materials for regional waste-resource cooperation:

- Materials that are considered a priority for all of the provinces;
- Where there is an opportunity to improve how the material is currently handled;
- Where environmental benefits could be gained through alternative handling; and
- Where Cooperation between provinces is achievable.

The initial list of candidate materials to be evaluated was identified in the request for proposal. This list was subsequently modified during the project initiation meeting and screenings process. The candidate materials included:

1. Plastic bags and containers;
2. Paint;
3. Take-out (disposable) beverage cups;
4. Dairy containers;
5. Used oil, oil containers and oil filters;
6. Tires; and
7. Fibre products (paper and cardboard).

To identify what candidate materials would provide the highest potential for regional cooperation, the project team conducted interviews with representatives of all four provinces. The interview process determined the priority that each material represented to each province. The survey also gathered data on how these materials are currently handled, relevant regulations, markets, and management programs in other jurisdictions. A feasibility analysis then determined that used oil (including containers and filters) and paint were the highest priority items for the provinces.

The analysis determined that economies of scale would help open up larger markets for materials and/or reduce collection and processing costs. The Atlantic Provinces may leverage the benefits of economies of scale on a regional level by cooperating to increase waste-resource recovery through common objectives that are supported by compatible governance. Cooperation is most commonly achieved through a central authority or inter-governmental committee that establishes and works to accomplish common objectives.

It would be the role of this Authority to coordinate recovery efforts and work to maximize the economic benefits for the region as a single entity. Clearly, the economies of scale will also apply to the implementation of collection and processing facilities, for example the centre of generation often represents the most cost effective staging area for processing. However, many other factors must also be considered in the implementation of a regional recovery system, such as transportation corridors, proximity to the final markets, available labour, and regional economic development initiatives. A central authority would work to ensure that each province shares the benefits, or shares the costs, of a Regional Waste-Resource Recovery System.

The results of the work program supports the following conclusions:

***1. The Atlantic Provinces may consider a cooperative approach to the management of used oil, oil containers and filters.***

Rationale - Existing recovery efforts are not consistent across the four Atlantic Provinces. For example, used oil containers, and used oil filters, are not collected in all jurisdictions. For the most part, the regulations and disposal requirements for used oil are similar amongst the Atlantic Provinces. However, testing and reporting requirements, as well as contaminant limits require harmonization. Product manufacturers have been active in the promotion of used oil recovery and support current initiatives. Industry stewardship models have already been implemented by many, but not all, jurisdictions in the Atlantic Region

Increased waste oil recovery may be achieved through consistent governance and region wide oil container and filter collection programs. The reduction in illegal waste oil disposal will have a significant environmental and economic benefit. Finally, the economies of scale of a regional waste oil collection program would support the development of commercial processing facilities in the Atlantic Region.

**2. *The Atlantic Provinces may consider a cooperative approach to management of unused paint and coatings.***

Rationale – Existing efforts are not consistent across the four provinces. Nova Scotia has a paint stewardship program that provides for the collection of unused paint through Enviro-Depots. New Brunswick, Newfoundland and Labrador and Prince Edward Island currently collect paint through Household Hazardous Waste depots (HHW). Industry stewardship models have already been implemented, and accepted, in many jurisdictions.

According to the company that processes paint collected through the Nova Scotia program, recovery rates in each province do not meet the minimum volumes required to sustain a local processing facility. However, they have also indicated that if the unused paint were managed regionally, a regional processing facility would be economical. A regional processing centre would provide employment opportunities and related economic spin-offs. The increased recovery of paint and other coatings would also reduce environmental impacts associated with landfill disposal and illegal dumping into municipal sewer systems.

**3. *The Atlantic Provinces may consider the creation of an Inter-Provincial Waste/Resource Management Office, or Committee.***

Rationale – Optimizing waste reduction and resource recovery programs requires the cooperation of many municipal, provincial and private sector interests. An effective way to ensure a lasting forum for dialogue and decision making is the establishment of a single point of administration. The Atlantic Provinces have a history of successful cooperation. Many successful private and government agencies exhibit this cooperation. Examples include energy, transportation, agriculture, and tourism.

**4. *The Atlantic Provinces may consider Producer Responsibility as a key guiding principle in the establishment of Waste-Resource cooperative programs.***

Rationale – It is generally accepted in the waste management industry that having producers take responsibility for the recovery (or disposal) of their products is an efficient and equitable manner of managing waste. The Organisation for Economic Co-operation and Development (OECD) has established Extended Producer Responsibility (EPR) as a policy tool for addressing environmental concerns from products at the post-consumer stage (OECD, 2001). Producers will make changes to their products in order to make them easier to recycle if they are responsible for doing so. Although consumers will ultimately bear the costs of end-of-life management even when producer responsibility is in place; this approach is more appropriate than having all

municipal taxpayers pay for the costs associated with the end-of-life management of products consumed by a portion of the population.

In conclusion, this study may be considered the first step in developing a Regional Waste-Resource Management Cooperative Initiative. The project team have consulted with both government and private sector representatives in each province and have concluded that regional cooperation in the area of waste-resource management should result in greater regional economic benefits and a healthier environment.

## 1. INTRODUCTION

The Atlantic Provinces Solid Waste-Resource Cooperative Initiative is aimed at finding opportunities and benefits regarding cooperation of the four Atlantic Provinces on solid waste-resource management programs.

The objectives of the work program were to:

1. Identify, where appropriate and feasible, opportunities to collaborate on and harmonize the policy and regulatory aspects of existing waste diversion and recycling programs, on a regional basis, with a view to strengthening their effectiveness and maximizing the economic and employment opportunities potentially available in Atlantic Canada.
2. Identify, wherever appropriate and feasible, opportunities to collaborate on and harmonize new waste diversion and recycling initiatives on a regional basis, with a view to:
  - Approaching industry representatives on a coordinated basis to review Regional policy and regulatory initiatives;
  - Maximizing opportunities for effective new waste diversion opportunities in Atlantic Canada by taking into account regional markets and regional economies of scale for new initiatives;
  - Maximizing opportunities for economic and employment gain; and,
  - Ensuring equitable sharing of potential benefits among the four provinces.

Cooperation among the provinces in this way is a basis for working toward a regional waste-resource management program. Regional cooperation in the area of waste-resource management will result in greater economic benefits and maximize environmental benefits.

## **2. SCOPE OF WORK**

The work program was designed to meet the project objectives mentioned previously. The following section outlines the scope and methodology undertaken.

### **2.1 ANALYSIS TO DETERMINE OPPORTUNITIES FOR REGIONAL WASTE/ RESOURCE MANAGEMENT COOPERATION**

This report focuses on opportunities for the Atlantic Provinces to improve the management of waste materials through regional cooperation initiatives. Once candidate materials were identified, they were individually analyzed to determine where improvements may be realized by a regional management approach. Current management practices were evaluated based on:

- Estimates of product recover volumes and sources;
- Review of current management practices; and
- Description of markets and market trends.

The results of this analysis were further considered to identify where cooperation among the provincial governments would be most effective.

The project team focused on readily available data for the estimates of materials and for market evaluation. If such information were only available from other jurisdictions, that data would be extrapolated for Atlantic Canada by evaluating it on a per capita basis.

Further, the scope of work did not include primary research where no readily available data were available. Development of detailed information on specific markets was not within the scope of the project, and was not required for the high level analysis to be conducted within this study. It was recognized that further detailed analysis would be required to support the implementation of a new program.

### **2.2 ESTIMATES OF PRODUCT QUANTITIES AND SOURCES**

Quantity estimates were established for each material generated in each of the Atlantic Provinces. In some cases, provincial solid waste-resource management representatives or key stakeholders in the management of these materials provided the generation data. Where readily available data did not exist, generation rates were extrapolated to estimate Atlantic Canada quantities using data from other governments and recycling and waste management organizations and the 2006 population estimates from Statistics Canada. The 2006 population estimates used in this report are presented in Appendix A.

## **2.3 REVIEW OF CURRENT MANAGEMENT PRACTICES**

The current management practices for each of the materials were identified and documented. The report provides a summary of existing collection systems, processing facilities, and required infrastructure.

## **2.4 DESCRIPTION OF MARKETS AND MARKET TRENDS**

The existing markets in Atlantic Canada were identified and evaluated for materials that have a potential for cooperative management. In many cases, markets in other parts of the country were investigated and described, particularly when the markets elsewhere are substantially stronger. The analysis of markets and market trends was focused on those candidate materials that presented opportunities for cooperation.

## **2.5 SURVEY OF ELEMENTS OF COOPERATION BETWEEN THE ATLANTIC PROVINCES**

A stakeholder survey was conducted to determine potential areas of inter-provincial cooperation. The survey was conducted in order to identify priorities, opportunities, barriers, and other factors that may promote (or restrict) regional cooperation. The project team then used this information to conduct a feasibility analysis of the candidate materials. The two materials that exhibited the highest potential for regional waste-resource management were selected for detailed study. Information on the remaining materials has been included in the report but in a reduced level of detail.

### 3. IDENTIFICATION OF MATERIALS WITH POTENTIAL FOR REGIONAL COOPERATION

The project objectives required the identification of products with the greatest potential for regional management. The following criteria were used to identify waste-resource material that may be considered candidates for regional cooperation:

- Materials that are considered a priority for all of the provinces;
- Where there is an opportunity to improve how the material is currently handled;
- Where environmental benefits could be gained through alternative handling; and
- Where Cooperation between provinces is achievable.

A preliminary list of materials to be evaluated for consideration was identified in the request for proposals, and modified at the project initiation meeting. The materials included:

- Plastic bags and containers;
- Paint;
- Take-out (disposable) beverage cups;
- Dairy containers;
- Used oil, oil containers and oil filters;
- Tires; and
- Fibre products (paper and cardboard).

During the first project meeting with the provincial representatives, it was agreed to remove dairy containers and fibre products from the list, as these products are already well managed. The provincial representatives felt that attention to the remaining materials on the list would be more beneficial.

It was also agreed that the project team would identify and evaluate provincial priorities for the management of the remaining materials on the list, and that the project would focus on the one or two materials that were of highest priority to the provinces. A summary of the results of the stakeholder survey is shown in Table 3-1. The survey questions and detailed survey results are included in Appendix B.

**Table 3-1: Provincial Priorities for Materials Identified as Having Potential for Cooperation**

		Priority*
		Total Highest Possible Score= 20 Total Lowest Possible Score = 5
1.	<b>Disposable Cups</b>	14
2.	<b>Plastic Beverage Containers</b>	12.5
3.	<b>Plastic Bags</b>	11.5
4.	<b>Paint</b>	17
5.	<b>Used Oil, containers and filters</b>	18
6.	<b>Tires</b>	17.5

\* (Ranked by 5 stakeholders on a scales of 1-5:  
 1=lower priority, 5=higher priority)

The results of the survey identified that used oil (including containers and filters) and paint were the highest priority items for the provinces. The project steering committee agreed that the survey results, and further discussion with the provinces, supported a conclusion that the study would focus on these two items as candidates for provincial cooperation at this time. The remaining materials on the list may be good candidates for regional cooperation in the future.

### 3.1 USED OIL, OIL FILTERS, AND OIL CONTAINERS

#### 3.1.1 ESTIMATES OF PRODUCT SOURCES AND QUANTITIES

Used oil, oil filters and oil containers are considered by most provinces as a high priority and the material that could be most easily integrated into a regional management plan. Used oil is an environmentally hazardous material that can cause serious pollution if improperly handled and is a non-renewable resource that can be conserved through recovery and reuse. Used oil may contain toxic substances<sup>1</sup> such as arsenic, chromium, benzene, cadmium, polycyclic aromatic hydrocarbons (PAHs) (including pyrene, phenanthrene and fluoranthrene), nickel, lead and polychlorinated biphenyls (PCBs). During its life cycle, lubricating oil generates container and filter waste that has oil residue associated with it.

<sup>1</sup> These substances are included in the "List of Toxic Substances" in Schedule 1 of the Canadian Environmental Protection Act.

Typical generators of used oil, used oil filters and used oil containers are service stations and automobile repair shops, large vehicle stops and repair shops, facilities that operate or service large machinery, public and private sector fleet maintenance facilities, and people who choose to change the lubricating oil on their own vehicles. Amongst the Atlantic Provinces it is estimated that there are approximately 68,599,000 L of used oil, 1,362 tonnes of oil filters and 1,900 tonnes of oil containers generated annually. All of these wastes can and should be reused or recycled. Data for each individual province and the totals are shown in Table 3-2.

Legislation is in place for the collection of used oil in all areas of Atlantic Canada. All retailers of oil are required to collect or arrange for the collection of used oil through return facilities that cater to people that change the oil in their own vehicles and machinery. All generators of used oil are required by law to return the material to a return location for proper disposal. Facilities that perform oil changes on a regular basis typically have their own systems for managing used oil, used oil filters and used oil containers to reuse or disposal. These companies either use the oil as a fuel source or store it for collection by a contracted company. Used oil filters are either directed to landfill disposal, or stored and collected by a contracted company that processes them. Used oil containers are disposed in the regular refuse in New Brunswick, Newfoundland and Labrador and Nova Scotia. In Prince Edward Island, used oil containers are stored for collection and used as fuel in the Charlottetown Waste to Energy facility. The management of used oil filters and containers is unlegislated, except in the Province of Newfoundland and Labrador where filters are required by law to be drained before disposal.

Used oil is bulked in storage tanks and drums at return locations and oil change operations. The collected used oil is then either burned in approved used oil furnaces on site, or collected by companies that find markets for the material. Oil filters are drained and stored in drums for collection. Oil containers are managed the same way as used oil filters, but are often directed toward landfill disposal because of their low value on the recycling market.

Currently, the Atlantic Provinces do not have a system for recording and reporting the amount of oil, oil filters and oil containers that are sold, or the amount of used products that are collected through current programs. Estimates of the amounts of oil, oil filters and oil containers generated annually in Atlantic Canada were extrapolated from data reported by the Alberta Used Oil Management Association (AUOMA)<sup>2</sup> and are presented in Table 3-2. A sample calculation used to derive this estimate is provided in Appendix C.

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<sup>2</sup> The AUOMA was used as a reference because it is the longest running program of this structure in Canada. These estimates therefore represent the amounts expected from a well-established system.

**Table 3-2: Expected Annual Generation of Used Oil, Used Oil Filters and Used Oil Containers in the Atlantic Provinces**

Province	Used Oil <sup>3</sup>	Oil Filters		Oil Containers
<b>New Brunswick</b>	22,013,000 L	1,748,000 filters	437 tonnes	600 tonnes
<b>Newfoundland and Labrador</b>	15,076,000 L	1,197,000 filters	299 tonnes	400 tonnes
<b>Nova Scotia</b>	27,461,000 L	2,181,000 filters	545 tonnes	800 tonnes
<b>Prince Edward Island</b>	4,049,000 L	322,000 filters	81 tonnes	100 tonnes
<b>TOTAL</b>	68,599,000 L	5,448,000 filters	1,362 tonnes	1,900 tonnes

The Atlantic Provinces have various monitoring and reporting practices for used oil, used oil container and used oil filter management. New Brunswick documents the collection and transportation of used oil, and conducts audits on the collection of used oil to verify that the material is being taken to an approved processor. However, used oil that is not collected by a carrier is not assessed to determine the quantity or fate of the material. In New Brunswick, used oil filters are tracked through Household Hazardous Waste Management Programs. Newfoundland and Labrador and Nova Scotia require that used oil collection facilities submit annual reports to the Newfoundland and Labrador Department of Environment and Conservation and Nova Scotia Department of Environment and Labour respectively, in order to obtain approval. PEI tracks only the used oil that is transported outside of the province.

### 3.1.2 CURRENT LEGISLATION AND MANAGEMENT PRACTICES IN THE ATLANTIC PROVINCES

The Atlantic Provinces currently have four different regulations in place for the disposal of used oil:

- New Brunswick - Used Oil Regulation of the Clean Environment Act.
- Newfoundland and Labrador - Used Oil Control Regulations of the Environmental Protection Act.
- Nova Scotia - Used Oil Regulations of the Environment Act.
- Prince Edward Island - Used Oil Handling Regulations of the Environmental Protection Act.

<sup>3</sup> Estimates for used oil, used oil filters and used oil containers were based on information provided in the AUOMA's 2004 annual report; these estimates were created using population estimates prepared by Statistics Canada (Appendix B). It should be noted that the actual amount of oil, filters and containers sold also depend on other variables, the analysis of which is beyond the scope of this project. A sample calculation of this estimate is provided in Appendix C.

The full texts of the used oil regulations for Atlantic Canada are attached in Appendix D. These regulations share some characteristics, but are not consistent amongst the Atlantic Provinces. In the regulations, used oil generally refers to lubricating oil that is used in combustion engines, such as crankcase oil, gear oil and transmission fluid. The definitions for used oil that are included in the used oil regulations for the Atlantic Provinces are presented in Table 3-3. This table demonstrates the inconsistency between the regulations in terms of units, contaminants regulated, and acceptable levels. Although the programs in each of the Atlantic Provinces operate using the same management practice, the specifications of the regulations vary considerably.

Regulations in the Atlantic Provinces require used oil to be returned to all retail locations that offer oil for sale, or to a site within a defined radius of the retail location. The responsibility for operating used oil collection sites is placed on retailers of lubricating oil. The provincial regulations for used oil also define limits for certain contaminants in used oil, and require that the used oil collected from retail locations be tested to ensure that these contaminants are below the established limits. The contaminant levels described in the used oil regulations are shown in Table 3-4.

**Table 3-3: Contamination Limits for Used Oil in each of the Atlantic Provinces as Stated in the Provincial Used Oil Regulations**

<i>Specifications</i>								
<i>Province</i>	<b>Units</b>	<b>Arsenic</b>	<b>Cadmium</b>	<b>Chromium</b>	<b>Lead</b>	<b>Zinc</b>	<b>PCBs</b>	<b>Total Organic Halogens (TOH) as Chloride</b>
<b>New Brunswick</b>	mg/kg	5	2	10	100	1500	5	1,000
<b>Nova Scotia</b>	mg/kg	Na	2	10	100	na	5	1,000
<b>Prince Edward Island</b>	mg/L	5	2	10	100	na	5	1,000
<b>Newfoundland and Labrador</b>	<i>Column 2<sup>4</sup></i>							
	mg/kg	na	2	10	10	na	5	100
	<i>Column 3<sup>5</sup></i>							
	mg/kg	Na	2	10	100	na	50	300

New Brunswick requires used oil collected from return facilities or directly from used oil generators to be tested by the collector. This testing is required under New Brunswick’s “Used Oil Carrier’s Approval to Operate”, and is verified through an auditing program. Newfoundland and Labrador track the testing of used oil with regards to its use as an industrial fuel. Testing of used oil and compliance with Newfoundland and Labrador contaminant limits is required before the material is transferred to receiving industries. The results of used oil tests are submitted to the Compliance section of the Newfoundland and Labrador Department of Environment and

<sup>4</sup> Used oil in which the concentration of each contaminant is equal to or below Column 2 values of the Regulations is defined as Class 1. Used oil in which the concentration of each contaminant is equal to or below Column 2 values with the exception of lead, which is above the Column 2 value but equal to or below the Column 3 value is defined as Class 2. Class 1 oil may be sold for use as described in the regulations.

<sup>5</sup> Used oil in which the concentration of each contaminant is equal to or below Column 2 values of the Regulations with the exception of PCBs and TOHs that are above the Column 2 value but equal to or below the Column 3 value is defined as Class 3. Used oil in which the concentration of at least one of the contaminants is above the Column 3 value is defined as Class 4. Class 4 used oil may only be offered for sale, sold or transferred to a used oil collector, or to a treatment, rerefining, recycling or destruction facility which has a certificate of approval issued under the act to treat, rerefine, recycle or destroy used oil or grease; or is permitted by another jurisdiction.

**Table 3-4: Definitions Included in the Atlantic Canadian Used Oil Regulations**

<i>Definition of</i>	<b>Contaminated Used Oil</b>	<b>Crankcase Oil</b>	<b>Lubricating Oil</b>	<b>Oil</b>	<b>Used Lubricating Oil</b>	<b>Used Oil</b>	<b>Waste Oil</b>	<b>Waste Derived Fuel</b>
<i>Province</i>								
<b>New Brunswick</b>	na	na	petroleum based oil that is being or is intended to be used primarily as lubricant in combustion engines, turbines, transmissions, gearboxes, hydraulic equipment and other similar equipment.	unless otherwise indicated, lubricating oil or non-halogenated metalworking fluid used in cutting, grinding, machining, rolling, stamping or coating and does not include crude or fuel spilled on land or in water, waste from refining operations or oil derived from animal or vegetable fat.	lubricating oil that has become unsuitable for its original purpose because of the presence of impurities or the loss of its original properties	oil that has become unsuitable for its original purpose because of the presence of impurities or the loss of its original characteristics	na	used oil that, having been tested in accordance with paragraph 14(2)(a), <b>a.</b> Has been determined to have a flash point of 61 degrees Celsius or higher, <b>b.</b> Has been determined not to contain any substance in a concentration exceeding the maximum allowable concentration in Part I of II of Schedule A listed beside the substance in Column 2 of Part I and II of Schedule A, and <b>c.</b> Is intended by a receiver to be used as a heating fuel
<b>Nova Scotia</b>	used oil that <b>a.</b> Has a flash point less than 38 degrees Celsius, or <b>b.</b> Contains any of the substances listed in Column I of Schedule "A" in a concentration in excess of the limit stated in Column II of Schedule "A".	internal combustion engine crankcase oil	na	na	na	petroleum or synthetic lubricating oils, hydraulic fluids, metal working fluids and insulating fluids which have been used and are no longer suitable for their original purpose, but are suitable for other uses, including re-refining or other uses that are considered acceptable to the Minister	na	na
<b>Newfoundland and Labrador</b>	used oil which contains one or more contaminants, excluding those contaminants listed in column 1 of the Schedule, including paint, paint thinner, chemical solvent or gasoline.		crankcase oil, gear oil and transmission fluid	hydrocarbon mixture that is refined from crude or synthetic oil, and includes naphtha, middle distillates, fuel oil, base stocks, mineral spirits, hydraulic fluids, metal working fluids, insulating fluids or coolants, treated oil and hydrocarbon solvents, but does not include gasoline, grease, chemical solvents, ethylene glycol or oil derived from animal or vegetable fats	lubricating oil that as a result of its use, storage or handling, is altered so that it is no longer suitable for its intended purpose but is suitable for re-refining or other permitted uses	used lubricating oil or waste oil	an oil that as a result of contamination by any means or by its use, is altered so that it is no longer suitable for its intended purpose	na
<b>Prince Edward Island</b>	used lubricating oil that has a flash-point less than 38 degrees Centigrade or that contains any of the substances listed in column I of Schedule A in concentrations in excess of those listed opposite the substance in column II of Schedule A.	na	engine oil, transmission fluid and gear oil, but does not include oils derived from animal or vegetable fats	na	na	lubricating oil which through use, storage or handling has become unsuitable for its original purpose but is suitable for re-refining or other permitted uses	na	na

na = not available  
Sources:

Conservation. In Nova Scotia, all collectors of used oil must submit an annual report to the Department of Environment and Labour detailing the quantity and distribution of used oil collected in the previous year, and the quantity of used oil in storage at the end of the year. Prince Edward Island does not have a system to track the results from used oil tests.

Used oil regulations in Atlantic Canada currently require all collectors of used oil to hold an approval or a license. Used oil is to undergo testing during its post-consumer management, but amongst the provinces, the specifications of who is to perform these tests vary. As shown in Table 3-4, contaminant limits also vary. This part of the regulation should be made consistent throughout the provinces and re-designed to ensure ease of compliance and maximum environmental protection.

Harmonizing used oil regulations across the Atlantic Provinces would also facilitate the addition of new products, such as used oil filters and containers to the regulations. A comprehensive approach across the provinces would provide for a consistent materials market for these new products, which would encourage industry involvement and stewardship.

Given that most of the used oil collected in the Atlantic Provinces is used as a fuel source, there should be regulations specifying the level of treatment that the material requires and testing specifications should be established for potential contaminants in used oil that is directed to use as a fuel source. As stated in the Technical Guidelines on Used Oil Re-refining or Other Re-Uses of Previously Used Oil of the United Nations Environmental Protection's (UNEP) Basel Convention in Geneva on September, 1995: serious environmental pollution of air, land and water can occur from burning used oil in uncontrolled conditions. To reduce these risks to the environment, this set of technical guidelines makes the following suggestions:

- Pre-treatment of used oil to meet established quality specifications;
- Appropriate dilution of used oil by blending with virgin fuels; and
- Installation of flue gas emission control devices.

Used oil furnaces currently require approval in all four of the Atlantic Provinces. It is beneficial to evaluate used oil furnaces on a case-by-case basis to ensure that each situation provides for environmental protection. However, it may also be beneficial for the provinces to develop consistent evaluation criteria for used oil furnaces in order to create a level playing field for oil processors and businesses that operate used oil furnaces.

### 3.1.3 ADDITIONAL MANAGEMENT PRACTICES IN CANADA

The Atlantic Provinces' regulations differ from provincial regulations in other parts of Canada. An example of the differences can be found in the legislation for used oil filters and containers. British Columbia, Alberta, Saskatchewan, Manitoba and Quebec regulate the management of used oil, used oil filters and used oil containers. In the Atlantic Region, Newfoundland and Labrador is the only province that legislates the management of used oil filters<sup>6</sup>, and the Atlantic Provinces do not currently address the management of used oil containers in any of the provincial regulations. A comparison of the diverse aspects of used oil regulations that exist in Canada is included in Appendix E.

Quebec and the Western Canadian provinces have developed used oil management associations to deal with used oil, oil filters and oil containers. The associations are:

- La société de gestion des huiles usagées (SOGHU);
- British Columbia Used Oil Management Association (BCUOMA);
- Alberta Used Oil Management Association (AUOMA);
- Saskatchewan Association for Resource Recovery Corp. (SARCC); and
- Manitoba Association for Resource Recovery Corp. (MARCC).

These organizations manage the collection of used oil, used oil filters and used oil containers for their respective provinces through networks of return facilities. The associations are responsible for promoting the program and providing educational materials to consumers. Programs are funded by Environmental Handling Charges, which are remitted to the respective associations by the first suppliers of oil, oil filters and oil containers. A summary of the various handling charges is presented in Table 3-5.

The majority of industries show Environmental Handling Charges as a visible fee to consumers. However, in Quebec these charges are generally included in the price of the product in accordance with the Province's Consumer Protection Act. From these handling charges, associations pay set 'Return Incentives' to private sector collectors and processors for the transport of used oil materials to government approved recycling facilities.

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<sup>6</sup> The Newfoundland and Labrador Used Oil Control Regulations require that free flowing oil be drained, that the oil collected from them be properly managed, and that the filters be recycled or disposed in a manner acceptable to the Department of Environment and Conservation, including deposit into a waste material disposal site. This can be seen in the regulations that are included in Appendix D.

**Table 3-5: Handling Charges Paid by First Supplier to Respective Associations**

Province	Oil	Filters		Containers
<b>British Columbia</b>	\$0.05/L	< 203 mm and sump type	\$0.5/filter	\$0.05/L
		>203 mm	\$1.0/filter	
<b>Alberta</b>	\$0.05/L or kg	<203 mm	\$0.05/filter	\$0.05/L
		>203 mm	\$1.0/filter	
<b>Saskatchewan</b>	\$0.05/L	<203 mm	\$0.05/filter	\$0.05/L
		>203 mm	\$1.0/filter	
<b>Manitoba</b>	\$0.05/L	<203 mm	\$0.05/filter	\$0.05/L
		>203 mm	\$1.0/filter	
<b>Quebec</b>	\$0.05/L	<203 mm and sump type	\$0.5/filter	\$0.05/L
		>203 mm	\$1.0/filter	

Return incentives vary by province and also throughout areas of each province in an effort to adequately compensate collectors for their services. For example, rural regions that are located greater distances from processing facilities would be associated with higher return incentives for used oil, used oil filters and used oil containers.

The provincial legislation and management associations require the wholesaler, importer or producer of oil, oil filters and oil containers to collect their products at their end-of-life, and manage them in a way that prevents negative impact on the environment. Although legislation leaves the option open for wholesalers, importers and producers to create their own programs for the management of these materials, most are registered with their respective management associations in order to follow the regulations. In exception, Alberta requires all first sellers to be registered with the AUOMA. In the British Columbia regulation, a strong emphasis is placed on mitigating and minimizing the generation of pollutants and wastes as a more effective and sustainable approach to environmental protection than pollution control, remediation and disposal. This approach to managing material over their life cycle is summarized by what British Columbia has termed the "Pollution Prevention Hierarchy". A version of this sort of hierarchy is the Environmental Protection Hierarchy, as established by Environment Canada, and is presented in Appendix F. The pollution prevention hierarchy prioritises common waste management practices. According to the model, reuse or recycling is favoured over incineration in waste-to-energy applications. Similarly, waste-to-energy applications are favoured over treatment, destruction or disposal of the waste.

The used oil associations are required to submit annual reports to government including audited financial statements and the amount of each material that has been generated and collected within the province during that year. The reported return rates are summarized in Table 3-6. In

their annual reports, British Columbia, Alberta, and Saskatchewan, Manitoba and Quebec provide end-of-use summaries for the used oil materials collected through their programs.

**Table 3-6: Oil, Oil Filter and Oil Container Return Rates**

<b>Province</b>	<b>Used Oil Return Rate</b>	<b>Used Oil Filter Return Rate</b>	<b>Used Oil Container Return Rate<sup>7</sup></b>
<b>British Columbia</b>	73%	81%	51%
<b>Alberta</b>	77%	84%	50%
<b>Saskatchewan</b>	83%	80%	49%
<b>Manitoba</b>	76%	76%	42%
<b>Quebec</b>	84%	73%	26%

The system for managing used oil, used oil filters and used oil containers that is currently operating in British Columbia, Alberta, Saskatchewan, Manitoba and Quebec has several benefits, but also has drawbacks:

- The industry associations are a form of extended producer responsibility and directly involve industry members in the management of the waste-resources that their products produce.
- The industry associations also serve as an overseeing body that monitors the management of used oil, used oil filters and used oil containers constantly.
- Used oil, used oil filter and used oil container collectors are in constant contact with the association to retrieve return incentives. This provides further opportunity to monitor the management system.
- The used oil management associations could encourage certain companies and management practices to be favoured, for economic reasons. This sort of situation may reduce environmental protection to being a secondary priority.
- Having the management of the materials controlled by a collaboration of representatives from private companies may restrict government and the public from having access to changes in policy and management practices. This could also have negative impacts on the environment and other socioeconomic factors related to the management of these materials.

<sup>7</sup> Container return rate is based on total containers recycled and reused either through the program or by the consumers of oil.

### **3.1.4 MARKETS FOR USED OIL, USED OIL FILTERS AND USED OIL CONTAINERS**

Used oil can either be processed and re-refined into a product that is suitable for reuse, used for its energy value in controlled burning applications, including on site, or directed to a variety of other uses such as raw material in asphalt production, floatation and forming oil, all purpose cleaner or material used by oil refineries in the manufacture of other refined products (UNEP, 1997).

Following the Environmental Protection Hierarchy, as shown in Appendix F, the highest priority option for managing used oil, used oil filters and used oil containers after redesign and minimizing consumption, is to conserve the original properties of resources by reusing or recycling, so that the materials can be directly reused for their intended purposes (UNEP, 1997). Following reuse and recycling, using the material for waste-to-energy applications is next as an option, followed by treatment or destruction.

#### **Re-refining Used Oil**

In the case of used oils, re-refining the material in order to separate and remove contaminants, can make it suitable for reuse for a variety of purposes and reduces the use of non-renewable virgin oils. Common technologies available for re-refining used oil include (UNEP, 1997):

- Acid/clay;
- Vacuum distillation/clay;
- Vacuum distillation/hydrotreating; and
- Solvent extraction. (AERCO Inc. P.S., 1995)

Most treatment systems also combine settling, decanting and filtering with these technologies to produce higher value oils (AERCO Inc. P.S., 1995).

The acid/clay re-refining process has a long operational history and is appropriate for a wide range of circumstances, however the process produces large quantities of by-product acid tar and is therefore not recommended as an environmentally sound method of treatment (AERCO Inc. P.S., 1995).

Vacuum distillation distils the oils under sub-atmospheric pressure to reduce temperature requirements (AERCO Inc. P.S., 1995). Distillation reduces water, antifreezes and solvents in used oil. This treatment method is limited in its ability to significantly reduce ash and other residues.

Clays are used in these processes to remove impurities, in order to provide a cleaner feed and also to give recovered oil a final polish. Treatment of used oil using clays improves primarily the cosmetic aspects of the material, such as colour (AERCO Inc. P.S., 1995). The clay material used in treatment must also be completely replaced by new material at the end of its useful life. This produces a significant amount of waste that can be used for little more than a low value heating fuel.

Hydrotreatment removes contaminants such as PCB's or heavy metals using selective hydrogenation.

Solvent extraction is used to treat products that are not removed by the former treatment methods. This method of treatment is done by the addition of an aliphatic solvent that selectively dissolves the oil fraction, bringing it above the layer of impurities.

Many high quality lubricating oils are synthetic and contain only the desired hydrocarbon chains. This refined product is valuable, but difficult to separate from the waste products associated with it after use. For instance, PAH levels in used oils have increased over the years due to the decrease in the frequency of oil changes. These substances pose a challenge in oil re-refining because they are contaminants and are difficult to separate from the desired hydrocarbon chains. PAHs can be removed by severe hydrogenation, but this process also destroys the refined hydrocarbon chains in the used oil (Lawton, 2006). Solvent extraction, in this case, can be used to extract the refined oil from other by products of oil use (Lawton, 2006).

The oil re-refinery operated by Newalta in North Vancouver, British Columbia currently uses a distillation/hydrotreatment process to re-refine used oil so that it can be returned to its original use (Newalta). Re-refining processes are not currently operating in the Atlantic Provinces, and considerations include high initial investments and meeting economies of scale, and the quality of used oil that is being managed. In order to produce high quality products, used oil re-refining requires feedstock that is not contaminated with high levels of products such as heavier fuel oils and chlorinated hydrocarbons, which are more difficult to process (AERCO Inc. P.S., 1995).

### **Energy Recovery from Used Oil**

If re-refining used oil is not feasible, the next most environmentally sustainable way to use the material is energy recovery via controlled burning. Energy recovery is currently a popular use for used oil in the Atlantic Provinces. Lubricating oil has a high-energy content and can be used to substitute virgin fuels. However, burning used oil can be environmentally hazardous depending on its constituents. Used oils that are destined for energy recovery should undergo pre-treatment and testing to ensure that they are suitable for this purpose. Used oil should only be burned in processes that have high combustion and contaminant destruction efficiencies or flue

gas treatment devices (UNEP, 1997), unless refined to reduce contaminants to levels that do not pose a threat to health or the environment.

Using untreated and unrefined used oil in other applications such as road oiling; asphalt cutting or extending, weed killing, vehicle undercoating and all-purpose cleansing should be avoided due to their potentially negative environmental effects (UNEP, 1997).

### **Recycling Used Oil Filters**

Oil filters are mainly made of steel and filter paper, with minor components made of rubber and other materials. After draining the used oil from them, used oil filters can be recycled for their steel content by scrap metal businesses. The paper portion of used oil filters is usually burnt.

### **Recycling Used Oil Containers**

Used oil containers are typically made from HDPE (#2) plastic, which is recyclable. However, HDPE containers that are contaminated with oil are typically difficult to clean and are therefore challenging to recycle. Four to fifteen percent of the oil in plastic containers remains within the container, depending on the type of oil, the size of the container, and how carefully the containers are drained. (Shiple, 2000) Used oils are typically difficult to drain and tend to leave larger amounts of oil within the container that is associated with contaminants (Shiple, 2000). Improperly drained used oil containers are a significant source of recyclable used oil that can be recycled, and also pose a threat to the environment if improperly stored and managed.

The main challenge to recycling HDPE plastic oil containers is removing the oil from them. With lower temperature washing, the typical 8% oil content is reduced to 3%. Hot washing (80°C) is costly and only reduces the oil content to 1-1.5% (Shiple, 2000). Possible markets for used oil containers are in applications where the oil content of the material does not negatively affect the product.

When recycled separately from other materials, used oil containers result in products that are generally too odorous and also too high in oil content to be marketable. Small amounts of used oil containers can generally be included in regular HDPE container recycling streams without negative impacts. Used oil containers can otherwise be included in the mixed plastics stream for the manufacturing of durable outdoor plastic goods such as imitation wood, posts, tubing, underground storage units, parking curbs, drainage tile etc. In Lunenburg and Yarmouth, Nova Scotia, oil containers are included in the recycling stream for HDPE containers.

Other considerations for used oil container management and recycling include the following:

- There is sufficient generation of used oil containers in the Atlantic Provinces to make recycling and processing of this material feasible but costly
- Used oil containers may leak and must therefore be transported in a sealed unit that collects the residual material.
- Collection of used oil containers could be done from gas stations, motor servicing businesses and landfill sites, HHW, transfer stations and private depots.
- Used oil containers may occupy large volumes if they are transported in bulk without being compacted.
- The oil content of used oil containers should be minimized before they are included in recycling applications.
- Research could be done to identify technology for cleaning and processing used oil containers, as well as new applications for this material at varying degrees of oil content.
- Products made from used oil containers should be tested to ensure that they do not pose a threat to health or the environment through direct contact or contaminant dispersion over time.

### **3.1.5 CURRENT MARKETS IN THE ATLANTIC PROVINCES**

In Atlantic Canada, used oil is collected from garages and maintenance shops that perform oil changes, or dropped off at processing facilities and household hazardous waste depots. Depending on the quality of the product, used oil is then processed to remove contaminants and modify it into a product that can be reused. Major collectors and processors of used oil have been identified as being the principal markets for these materials.

Used oil filters and containers not being processed are usually captured by the regular refuse or HHW waste-resource streams, or by garages and other motor servicing operations which direct them to disposal or processing. For the purpose of this study, the management practices for used oil filters and used oil containers addressed by used oil handling companies were considered.

Major collectors and processors of used oil, used oil filters and used oil containers in the Atlantic Provinces are Atlantic Industrial Services and Atlantic Industrial Cleaners (both owned by EnviroSystems), Eastern Environmental Services, Barrington Environmental Services (owned by J.D. Irving), Caledonia Waste Oil Enterprises Ltd, Pardy's Waste Management and Industrial Services, Crosbie's Industrial Services Ltd., Clean Harbors Environmental Services, Loomers Pumping Services and Safety Kleen. Information about these companies is included in Appendix G. These companies were contacted in order to obtain information on current processing practices and end-of-life markets for used oil, used oil filters and used oil containers.

## **Used Oil**

The markets for used oil in the Atlantic Provinces are similar. In Nova Scotia most of the used oil that is collected is processed and sold as a competitor to bunker C fuel oil, also known as Type 6 heating fuel oil, which is a viscous residue of the crude oil refining process. The businesses that operate processing facilities in Nova Scotia are listed in Appendix G. Clean Harbor Environmental Services and Safety Kleen are involved in the used oil collection industry. Clean Harbors sends used oil to Atlantic Industrial Services, Eastern Environmental Services or, sometimes, the Clean Harbors processing facility in Maine. Safety Kleen redirects the used oil that they collect to Atlantic Industrial Services. The specific end uses of used oil are shown in Appendix G.

Oil collected in New Brunswick is also sold for heating applications. Eastern Environmental Services and Caledonia Waste Oil Enterprises Ltd operate the major processing facilities in New Brunswick.

In Prince Edward Island, oil markets are less predictable. In the winter months, used oil is in high demand for use as a fuel in heating applications. Creed's Petroleum and Superior Sanitation are two of the larger used oil collection operations in the Province. Superior Sanitation collects used oil through its sister company GreenIsle in Charlottetown, and operates used oil furnaces at the Summerside facility for heating during the winter months. Envirosystems, Barrington Environmental Services and Eastern Environmental Services and smaller local farm owned operations also occasionally collect used oil.

Crosbie's Industrial Services Ltd and Pardy's Waste Management and Industrial Service manage most of the used oil generated in Newfoundland and Labrador. Crosbie's Industrial Services Ltd collects and processes used oil. The markets for the material that they manage depend on the quality of the collected product. If the oil is clean enough, it can undergo minimal processing and be sold directly to companies that used it as a fuel or a constituent in asphalt. Most of the oil however is processed by Crosbie's Industrial Services Ltd to remove water and grit, and then sold to Barrington Environmental Services in Nova Scotia for further processing.

## **Used Oil Filters**

Since the end-use and management of used oil filters is not legislated, the current practices depend on the companies that are involved in this industry. As mentioned previously, oil filters have strong potential for scrap metal recycling, but can contain significant amounts of residual used oil if improperly drained. Because of their residual used oil content, used oil filters are often crushed to retrieve used oil and sent for scrap metal recycling, or landfill disposal. The filters and residual oil are used as fuel sources.

As shown in Appendix G, filters collected in New Brunswick, Nova Scotia and Prince Edward Island by EnviroSystems, Barrington Environmental Services and Eastern Environmental Services are drained to retrieve residual used oil, and are then sent for recycling to the best available market. Used oil filters collected in Prince Edward Island by Creed's Petroleum Limited and Superior Sanitation are incinerated in the waste to energy facility operated by PEI Energy Systems in Charlottetown. PEI Energy Systems incinerates whole filters that have been received as part of the waste stream. Crosbie's Industrial Services in Newfoundland collects used oil filters. The oil is removed and the filters are steamed, crushed, and then landfilled.

### **Used Oil Containers**

Due to the difficulty of cleaning/de-oiling plastic oil containers after use, the majority of containers end up in landfill sites (Shiple, 2000). Major processors of used oil in Atlantic Canada that collect used oil containers, redirect them to landfill disposal or use as a fuel source in furnaces that support heating systems. Lunenburg and Yarmouth, Nova Scotia recycle used oil containers in the same stream as other HDPE plastic containers.

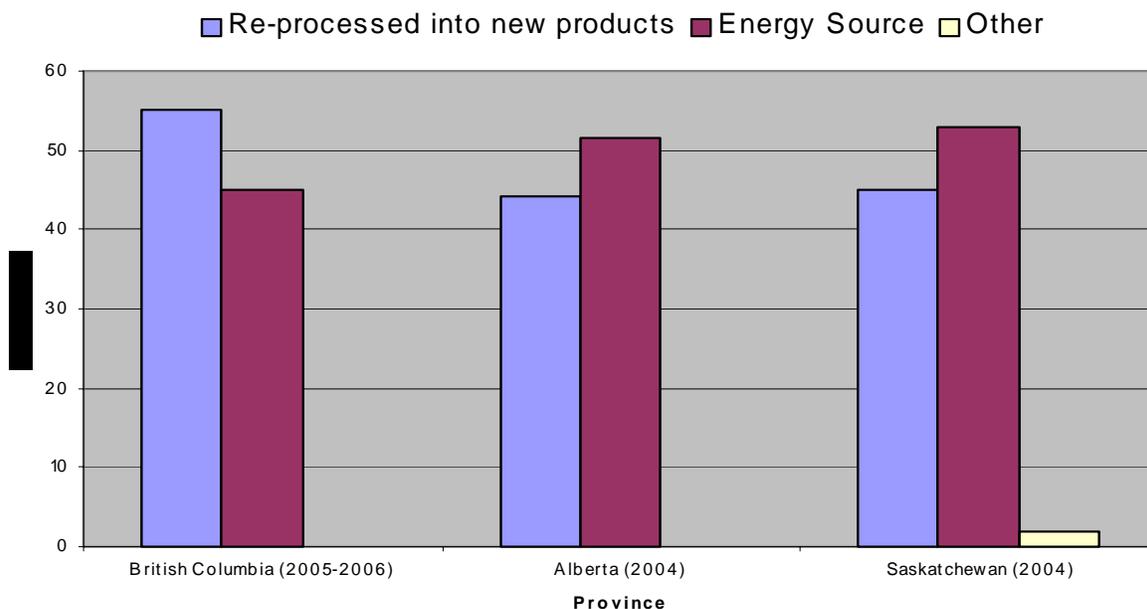
### **3.1.6 ADDITIONAL MARKETS IN CANADA**

For provinces outside of the Atlantic Region, market information for used oil, used oil filters and used oil containers was included when found in the annual reports submitted by the respective used oil associations. Although this information was not found for the provinces of Manitoba, Ontario or Quebec, it is possible that further research would lead to a more comprehensive picture of used oil, oil filters and oil containers markets in Canada. Data from the annual reports for British Columbia, Alberta and Saskatchewan, however, are indicative of the management of these materials and provide a basis for comparison between the two types of management for used oil and its associated products that are being practiced in Canada.

### **Used Oil**

Of the used oil collected in British Columbia, in the fiscal year 2005/2006, approximately 55% was taken to the Newalta re-refinery in North Vancouver that makes recycled lubricating and base oil products. (BCUOMA, 2006) The remainder of the used oil was re-processed and re-used as an energy source at pulp mills and asphalt plants in British Columbia, Alberta and Washington State. In Alberta, 41.8% of used oil collected during 2004 was used in asphalt plants as heating oil, 22.6% was reprocessed into petroleum products, 21.7% was re-refined into lubricating base oil, 9.7% was used in large industrial plants as heating oil, and 4.2% was used in small space heaters as heating oil. (AUOMA, 2004) Approximately 45% of the used oil collected in Saskatchewan in 2004 was directed towards re-refining and re-processing, 53% was directed toward energy recovery and approximately 2% went toward other uses. (SARRC, 2004) Table 3-7 summarizes graphically the markets for the three provinces.

**Table 3-7: Markets for Used Oil in British Columbia, Alberta and Saskatchewan\*<sup>8</sup>**



**\*Corresponding data was not found for the used oil programs in Manitoba and Quebec**

British Columbia has the largest percentage of used oil sent for re-refining and re-processing into new products. This may be related to the province's Recycling Regulation, which requires the pollution prevention hierarchy to be followed in the management of used oil in British Columbia.

### **Oil Filters**

Oil filters in British Columbia are crushed and sent to steel mills in either Washington or Alberta for recycling into new steel products. (BCUOMA, 2006) Oil filters in Alberta are also collected and processed at steel recycling mills. (AUOMA, 2004) Oil filters collected in Saskatchewan are also converted into new steel products. (SARRC, 2004)

### **Used Oil Containers**

British Columbia collects and shreds its used oil containers, which are then cleaned in a centrifuge. (BCUOMA, 2006) Oil is recovered for recycling from the cleaning process, and shredded oil containers are mixed with household HDPE plastic. This material is pelletized and sold to manufacturers of new oil containers, drainage tile, parking curbs and other plastic

<sup>8</sup> Source: 2005/2006 report from the BCUOMA; 2004 report from the AUOMA; 2004 report from the SARRC.

products. Alberta oil containers are processed into 24.3% new plastic containers and 75.7% reprocessed plastic durable goods. (AUOMA, 2004) In Saskatchewan, all oil containers under 20L are recycled into railroad ties, construction posts, plastic pipe and new oil containers, among other products. (AUOMA, 2004)

### **National Used Oil Material Advisory Council (NUOMAC)**

In 2004, the five used oil management associations formed the National Used Oil Material Advisory Council (NUOMAC). The aim of this advisory council is to “coordinate the Canada-wide used oil recycling effort and encourage consistent national standards” (UOMA). For this purpose, the NUOMAC has established a list that indicates where environmental handling charges should be applied. This list is attached in Appendix H. The NUOMAC could be helpful in the planning and implementation of used oil, used oil filter and used oil container collection and management system for the Atlantic Provinces.

### **3.1.7 OPPORTUNITIES FOR COOPERATION BETWEEN THE ATLANTIC PROVINCES**

There is a significant opportunity for the Atlantic Provinces to cooperatively improve the current management system for used oil. The Atlantic Provinces also have the opportunity to cooperatively provide comprehensive collection and environmentally sustainable end-of-life management of used oil filters and used oil containers. Used oil can be re-refined and made into new products, or used as an energy source. Filters are a source of used oil and scrap metal; and oil containers, which are made of recyclable HDPE (plastic #2), can be recycled.

Currently, the Atlantic Province's do not have a system for reporting the amounts of oil sold. The systems for reporting the amount of used oil collected, processed and used are inconsistent, which may hinder cooperative management. Consistent legislated requirements for reporting the amount of oil, oil filters and oil containers sold and its end uses would help to correctly quantify and qualify current management efforts. Such data would help to establish baseline recovery rates, evaluate where market opportunities exist for environmentally safe used oil management, and identify further prospects for improving the programs.

The Atlantic Provinces could cooperate to create baseline recovery rates for used oil, used oil filters and used oil containers in each Province. This would be beneficial in evaluating where opportunities exist to improve the program, and in assessing the effectiveness of future changes. In order to create baseline recovery rates, there will have to be data collected on the amount of oil, oil filters and oil containers sold in the province, and the amount of used oil, used oil filters and used oil containers that are collected.

While assembling the required data for this project, it was found that the only available resource for information on the current management practices for used oil, used oil filters and used oil containers were industry stakeholders. Problems with this information source are the following:

- Industry is not willing to disclose confidential data or information. What they consider to be confidential may be crucial to the correct representation of the management system.
- Because of time restrictions, the most knowledgeable person available to speak on the topic provided information from industry over the phone.
- It is difficult to verify the details that industry stakeholders provide because there is no complete secondary source for the information. It is possible that businesses might provide false information to protect their interests.

Regulations in the Atlantic Provinces could be harmonized to be consistent in the following areas:

- Definitions of materials;
- Products included in the waste-resource recovery program for oil;
- Requirements for testing and reporting; and,
- Legislation surrounding the use of used oil as a fuel source.

Harmonization in these areas would be beneficial because it could:

- Augment management practices and monitoring to ensure the proper handling of used oil;
- Improve the consistency of the used oil market across the Atlantic Provinces;
- Make it simpler for producers and retailers to comply; and,
- Result in opportunities for cooperative promotion of sustainable practices for the management of used oil, used oil filters and used oil containers across the region.

In each of the Atlantic Provinces there are most likely many other enterprises that collect and manage less significant amounts of used oil, used oil containers and used oil filters than the companies that have been previously mentioned. A complete analysis of these businesses is beyond the scope of this project. The Atlantic Provinces could cooperate to create an up to date database of the oil collectors, processors and buyers in the Atlantic Region. Information in this database could include details of approvals issued by the provinces, estimates of material sources and annual quantities collected and processed, along with contact information for a person to whom questions can be addressed.

Used oil that is collected through major processors in the Atlantic Provinces is currently either burned as a fuel source or used in the manufacturing of asphalt, as a heat source or extending product. Incinerating used oil is an attractive option for businesses that have approved furnaces for the material because it can reduce fuel costs. However, incinerating used oil destroys the material for future use. Used oil can be re-refined, as it is in Western Canada by companies such as Newalta, to produce lubricating oils and base oils for other applications. Re-refining used oil generally takes less energy (Garthe, 2005) than refining virgin oils, and also produces less harmful air emissions (Lawton, 2006), while conserving a non-renewable resource. Companies that re-refine used oil in other parts of North America are currently involved in the local management of used oil, but are not operating re-refining facilities in the Atlantic Region. The Atlantic Provinces could cooperate to encourage more sustainable management of used oil, where opportunities exist.

The Atlantic Provinces could also cooperate to develop the comprehensive and environmentally safe collection, processing and recycling of used oil filters and used oil containers. Regulations should stipulate that oil filters and containers be properly drained and returned to the designated collection locations. Recycling of used oil filters and used oil containers in the Atlantic Provinces could be facilitated through cooperative efforts between the Atlantic Provinces to identify marketing opportunities.

Used oil, used oil filters and used oil containers can be collected and managed in a manner that prevents pollution and creates opportunities for these materials to be treated as resources. Changes to the current systems in the Atlantic Provinces could include:

- Providing for consistent collection of used oil, used oil filters and containers in all areas of Atlantic Canada;
- Harmonizing regulations in the four provinces and adding used oil filter and used oil container management to regulations;
- Data collection for baseline recovery rates of used oil, used oil filters and used oil containers; and,
- Encouraging and promoting practices that follow the Environmental Protection Hierarchy in the management of these materials.

It is also noted that there are a number of waste materials not on this list that may benefit from a regional waste-resource management plan, such as electronic waste (e-waste), construction debris, batteries, metals, and appliances. All of these wastes should be considered in future phases of the development of a regional waste-resource management plan.

## 3.2 UNUSED PAINT

### 3.2.1 ESTIMATES OF PRODUCTS SOURCES AND QUANTITIES

Unused paint is the post-consumer portion that is available for recycling or disposal. The source of unused paint is primarily householders and commercial painters. Amongst the Atlantic Provinces, there are approximately 1,873,000 – 2,023,000 L of unused paint generated annually, which are available for reuse or recycling. Estimates of the amounts of unused paint available are shown in Table 3-8. The quantities of paint generated in Nova Scotia, as supplied by the Nova Scotia Resource Recovery Fund Board in their 2006 report, were used to estimate the amount of paint generated in Prince Edward Island and Newfoundland and Labrador. The calculation for obtaining these estimates is shown in Appendix I.

**Table 3-8: Estimated Annual Generation of Paint in the Atlantic Provinces**

Province	Paint Available for Recycling
<b>New Brunswick</b>	200,000–250,000 L of residential paint and 400,000– 500,000 L of industrial, commercial and institutional paint (Frank LeBlanc)
<b>Newfoundland and Labrador</b>	412,000 L <sup>9</sup>
<b>Nova Scotia</b>	750,000 L (RRFB, 2006)
<b>Prince Edward Island</b>	111,000 L <sup>10</sup>
<b>TOTAL</b>	1,873,000 L – 2,023,000 L

### 3.2.2 CURRENT LEGISLATION AND MANAGEMENT PRACTICES IN THE ATLANTIC PROVINCES

The only current regulatory definition of paint in the Atlantic Provinces is found in the Nova Scotia *Solid Waste-Resource Management Regulations*. "Consumer Paint Product" is defined as:

"A latex, oil or solvent-based architectural coating, including stain and paint for commercial and industrial use, but does not include a specially formulated industrial, automotive or marine coating".

<sup>9</sup> Estimates for paint were based on data collected through the Nova Scotia Paint Stewardship program. A breakdown of this estimate is provided in Appendix I.

<sup>10</sup> Estimates for paint were based on data collected through the Nova Scotia Paint Stewardship program. A breakdown of this estimate is provided in Appendix I.

Paint is generally divided into three major categories: architectural paints, industrial coatings and automotive coatings. For the purpose of this project, the management of architectural paints is considered.

The composition of paint varies with the manufacturing process and the intended end-use of the product. The components of paint, as outlined by the Canadian Paints and Coatings Association (CPCA, 2006), are the volatile vehicle, the non-volatile vehicle, and the pigment. Some of the constituents typically found in general consumer paints are shown in Table 3-9.

**Table 3-9: Composition of Paint Products (CPCA, 2006)**

<b>Components of Paint</b>	<b>Description</b>	<b>Possible Constituents</b>	
<b>Volatile Vehicle</b>	Portion of paint that evaporates when the paint dries. Forms a film that then dries into a protective coating	In Latex paints	Water and glycols or other agents that make the paint uniform
		In Solvent paints	Organic solvents such as mineral spirits, alcohols and esters
<b>Non-Volatile Vehicle</b>	The resin or polymer that forms the film of the finished paint product. Also referred to as the binder	In Latex paints	Emulsion polymers
		In Solvent paints	Commonly alkyds. Alkyds may be modified with acrylics, urethanes or epoxies.
<b>Pigment</b>	Help hide surfaces, provide the finish effect and add durability	Used in Hiding Pigments	Titanium dioxide
		Used in Specialty (Extender or Inert) Pigments	Calcium carbonate, talc and clay are commonly used
		Used in Inorganic coloured pigments	Iron oxide, and other products of chemical processes
		Used in Organic coloured pigments	Carbon containing compounds

Due to the mixture of chemicals that make up paint products, unused paint that is improperly disposed can negatively impact the environment by polluting groundwater, streams, lakes and soil. Furthermore, unused paint can be recycled into value added products. To supply the paint recycling industry, a comprehensive system must exist for consumers to return unused paint to collection points.

Nova Scotia is the only Atlantic Province with a regulated stewardship program for unused paint. Under the *Solid Waste-Resource Management Regulations* of the Environment Act, brand owners of paint products in Nova Scotia must register with the Nova Scotia Resource Recovery Fund Board (RRFB) in order to sell, offer for sale, or otherwise distribute consumer paint products. The brand owners then enter into a contract with the RRFB to manage their post-consumer paint. The RRFB administers a network of Enviro-Depots that serve as collection points for paint and other recyclable materials. Product Care, an association that originated in British Columbia, is contracted by approximately 83% of the brand owners in Nova Scotia to manage their transfer of environmental fees to the RRFB.

Laurentide Resource, a company owned by Société Laurentide, manages the paint collected at Enviro-Depots. Unused paint is then redirected to a facility in Springhill, NS, where the paint is bulked and sent for final processing in Victoriaville, Quebec. The paint is processed in Victoriaville so that it can be sold as recycled paint. According to Pierre Landry, Laurentide Resource's representative, the re-processing of unused paint collected in Nova Scotia was done entirely at the Springhill location in the past, but for supply reasons, processing is currently conducted in Quebec.

Laurentide Resource is part of the Peintures Récupérées division of Société Laurentide. As previously mentioned, Peintures Récupérées operates the paint bulking plant in Springhill, Nova Scotia and the unused paint processing plant in Victoriaville, Quebec. The company also operates plants in Montreal, Quebec City and Richibucto (NB), as well as distribution centres in Richibucto (NB) and St. John's (NL).

New Brunswick, Prince Edward Island and Newfoundland and Labrador are developing stewardship programs for paint collection and management. These provinces do not currently have regulations that are specific to the management of waste paint, and currently collect paint through HHW depots and collection days, without having comprehensive systems for directing waste paint material to potential markets.

According to Pierre Landry, a representative for Laurentide Resource, paint collected through the Nova Scotia Stewardship program comprises 80% of the paint received at the Laurentide Resource Facility. On a case-by-case basis, Laurentide Resource recycles some of the paint that is collected through HHW programs in New Brunswick, Prince Edward Island and Newfoundland and Labrador.

### 3.2.3 ADDITIONAL MANAGEMENT PRACTICES IN CANADA

British Columbia was the first province to establish a program in 1994, under the *Post-Consumer Paint Stewardship Program Regulations*. This effort resulted in the development of the Product Care Association to manage post-consumer paint in British Columbia. This association has now extended its reach to include participation in the paint stewardship programs in Saskatchewan and Nova Scotia. In 2000, Quebec passed the *Regulation Respecting the Recovery and Reclamation of Discarded Paint Containers and Paints* of the Quebec Environment Quality Act, requiring industry to recover 25% of available post-consumer paint by 2002, 50% by 2005, and 75% by 2008. Companies that do not comply with the regulation are fined. Saskatchewan's paint stewardship program was started in April 2006, after the *Waste Paint Management Regulations* came into effect in November 2005.

Unused paint in British Columbia is brought to Paint Depots where the paint is placed in plastic tubs and sent to a central processing facility managed by Product Care along with flammable liquids, pesticides and gasoline. In Quebec, unused paint can be returned to retail locations, but 70% is collected through drop-off centres. Paint that is collected in Quebec is managed by a non-profit organization called Eco-Peinture. Société Laurentide, the company that owns Laurentide resource, is a member of Eco-Peinture. In Saskatchewan, the Saskatchewan Association of Rehabilitation Centres (SARC), through its SARCAN Recycling Division, has partnered with Product Care to recycle paint. Paint is collected at SARCAN depots and managed through a program administered by Product Care.

In British Columbia and Saskatchewan, consumers are charged eco-fees at the point of sale. In Nova Scotia, the brand owners of recyclable paint remit fees to the RRFB or to Product Care, which remit it on their behalf, but often charge these fees to the consumer. The fees charged in each province are shown in Table 3-10.

**Table 3-10: Fees Charged by Province for the Handling of Unused Paint**

Province	Fees				
	Aerosol cans <sup>11</sup>	250ml	250ml - 1L	1L-5L	5L-23L
British Columbia <sup>12</sup>	\$0.10	\$0.10	\$0.25	\$0.50	\$1.00
Saskatchewan <sup>13</sup>	\$0.10	\$0.10	\$0.25	\$0.40	\$1.00
Quebec <sup>14</sup>	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25
Nova Scotia <sup>15</sup>	\$0.10	\$0.25	\$0.25	\$0.50	\$1.00

<sup>11</sup> Product Care

<sup>12</sup> Ibid

<sup>13</sup> Saskatchewan Waste Reduction Council

<sup>14</sup> Ibid

<sup>15</sup> Brenda Gordon, RRFB

It should be noted that more than half of the paint retailers in Nova Scotia show the fee as a separate cost to consumers due to agreements with RRFB Nova Scotia, and the Nova Scotia Government.

### **3.2.4 MARKETS FOR UNUSED PAINT**

In paint recycling, unused paints are generally separated according to constituents and colours in order to produce large volumes of paint with similar characteristics. The paint is then mixed at high speeds and new substances are added. Unused paint, if properly separated and blended in a large quantity, will produce a fairly consistent product from one batch to the next. For example, Peintures Récupérées, a Quebec based paint recycling company, claims to produce consistent colours of latex paint by combining unused paints using high speed mixing equipment in vats that have a volume of approximately 4,000 L.

In cement kilns, all types of unused paint can be blended and used as a fuel source. The organic constituents of paints are incinerated to provide a heat source, and the inorganic portions can be added to the other materials that are used to produce cement. Unused latex paint can also be used as a constituent in non-paint products such as specialty concrete. Due to the latex resin in latex paint, it can be added to concrete to provide strengthening qualities. The addition of latex paint to concrete at relatively low levels can enhance durability and lessen the effects of abrasion.

### **3.2.5 CURRENT MARKETS IN THE ATLANTIC PROVINCES**

Paint that is collected for recycling through the Paint Stewardship program in Nova Scotia is bulked and directed to processing in Victoriaville, Quebec. The paint recycling facility that is currently doing the final processing of Nova Scotia unused paint, is called Peintures Récupérées. This company also processes the paint collected through the Eco-Peinture paint management program in Quebec.

Peintures Récupérées blends unused paints together according to colour in order to produce recycled products that can be sold as architectural paints. From all of the paint that is collected, two grades of paint products are produced. Approximately 60% of the paint stream yields a product that is sold in Canada under the brand name 'Boomerang'; the remaining 40% is exported to markets in Cuba, Haiti, Mexico and African countries (Peintures Récupérées, 2003).

To create 'Boomerang' paint, approximately 5% new material is added to provide consistent lustre levels, viscosity and drying time. The recycled products include alkyd (commonly called "oil based") and latex paint as well as stain and varnish. Products are combined to create 16 average latex paint colours, four average alkyds colours and five average stain colours that are all of the quality produced from the average of the paints included in the unused paints that are collected.

### **3.2.6 ADDITIONAL MARKETS IN CANADA**

Paint collected in British Columbia is sent from Paint Depots to a central processing facility in Surrey, British Columbia. In their 2005 Director's Report, Product Care reported that 3.9% of the paint collected in British Columbia is reused, 61.9% is recycled and 34.2% is used for recovery of energy.

Paint recovered in Quebec is sent to the paint recycling facility in Victoriaville. The majority of the material collected through the Quebec program is made into a saleable product. Steel paint cans are pressed and sent to a foundry. Approximately 15% of the total material collected is landfilled. A paint collection and recycling program in Saskatchewan was started in 2006. Through this recently implemented program, unused paint is directed to recycling and to a paint exchange program.

### **3.2.7 OPPORTUNITIES FOR COOPERATION BETWEEN THE ATLANTIC PROVINCES**

Implementing programs for comprehensive collection of paint in New Brunswick, Newfoundland and Labrador and Prince Edward Island, could help to supply paint recycling facilities in the Atlantic region, thereby increasing local economic benefits of unused paint management. This could subsequently increase the regional economic benefit from paint recycling, while reducing the environmental impacts of transporting the material.

According to Pierre Landry, a company representative, Laurentide Resource recycles approximately 90% of the paint that they receive into a saleable finished product. Approximately 90% of paint cans collected are baled and recycled (Pierre Landry, Laurentide Resource). The remaining 10% are directed to landfill.

Regulations and programs developed cooperatively by the Atlantic Provinces could look to Nova Scotia's current program as a working model. Interprovincial strength derived from this effort could also improve the market for recycled paint in the Atlantic Provinces, thus providing local jobs in the collection and processing industry. However, it should be noted that, if all of the paint in the Atlantic Provinces is directed toward one processor a monopoly may be created, thus, caution must be exercised in order to assure that competition in the industry is encouraged.

Lessons learned from the experience in Nova Scotia could be beneficial in developing programs in the other Atlantic Provinces. Nova Scotia's Regulation does not address the visibility of fees, however, internalization of fees is mentioned in agreements between the Minister of the Environment and Product Care; and between the Minister of the Environment and RRFB Nova Scotia. Through this system, some brand owners choose to charge consumers using a separate fee, which is sometimes shown on the receipt. This provides consumers with mixed messages. It could be beneficial to regulate a consistent approach to fees charged at retail in order to allow for consistency in the program, and an appropriate public perception of the paint stewardship program. Consistency created through legislation is also favourable to industry because it helps to simplify compliance.

### 3.3 USED TIRES

#### 3.3.1 ESTIMATES OF PRODUCTS SOURCES AND QUANTITIES

Used tires can create a variety of environmental problems if they are improperly managed. Tires do not decompose, and tend to resurface in landfills due to the freeze and thaw process of Canadian winters (Environment Canada, 2002). Used tires that are left in the elements attract small rodents and vermin (Environment Canada, 2002). Tires fires are difficult to extinguish and have serious environmental consequences, producing heavy smoke and toxic runoff to waterways (RMA, 2006).

The owners of passenger and commercial vehicles, as well as junkyards, vehicle recycling operations and auto repair shops and service centres are generators of used tires. Amongst the Atlantic Provinces there are approximately 2,400,000 tires generated annually, which are available for reuse or recycling. Estimates of the annual generation of used tires by province are shown in Table 3-11.

**Table 3-11: Expected Annual Generation of Tires in the Atlantic Provinces**

Province	Tires Available for Recycling
<b>New Brunswick</b>	835,000
<b>Newfoundland and Labrador</b>	440,000 tires sold, 340,000-360,000 collected annually (Glenda Melvin, MMSB)
<b>Nova Scotia</b>	900,000 tires collected annually (RRFB, 2006)
<b>Prince Edward Island</b>	80,000-100,000 tires collected annually (Sean Ledgerwood, PEIEEF)
<b>TOTAL</b>	2,400,000 tires

### 3.3.2 CURRENT LEGISLATION AND MANAGEMENT PRACTICES IN THE ATLANTIC PROVINCES

All four Atlantic Provinces have legislation that specifically addresses tires. They are as follows:

- New Brunswick - *Tire Stewardship Regulation*;
- Newfoundland and Labrador - *Waste Management Regulations*;
- Nova Scotia - *Solid Waste-Resource Management Regulations*; and,
- Prince Edward Island - *Environment Tax Act*.

These regulations are not consistent, including differences in the types of tires included in the programs. The definitions used in the legislation for used tire management throughout the provinces could be harmonized to provide consistent terminology for used tire management. Consistent terminology amongst the used tire regulations in the Atlantic Provinces may facilitate communication amongst the Provinces during cooperation efforts, and provide clear and consistent definitions for businesses that operate in more than one Atlantic Province. Creating consistent terminology could also be a stepping-stone to achieving further uniformity throughout the used tire regulations. Definitions associated with used tire management in the Atlantic Provinces are shown in Table 3-12, and are meant to indicate some of the similarities and differences in the regulations.

Used tires have collection systems in all four of the Atlantic Provinces. Consumers pay a retail fee at the point of sale of new tires to contribute to the cost of environmentally safe post-consumer handling of the material. The fees charged on tires by retailers, at this time, can be seen in Table 3-13. In all of the Atlantic Provinces, consumers return tires to designated drop off locations once they have been used. The tires are then collected and transported to facilities with the intention of finding an environmentally safe use for them.

**Table 3-12: Definitions Associated With Used Tire Management in the Atlantic Provinces**

<b>New Brunswick</b>	<b>Newfoundland and Labrador</b>	<b>Nova Scotia</b>	<b>Prince Edward Island</b>
New Tire	New Tire	New Tire	
a tire supplied separately or on or with a machine or device but does not include a retreaded tire or a used tire	a tire that is i) provided with a vehicle, or ii) provided separately for use on or with a vehicle, and has been manufactured but not first supplied to a consumer	a tire which is provided i) with a motor vehicle, a vehicle or a trailer, or ii) separately for use on or with a motor vehicle, a vehicle or a trailer, but does not include a retreaded tire, a used tire, or a tire with a rim size greater than 622.3 mm (24.5 inches)	<i>No Definition</i>
Tire	Tire	Tire	Tire
a tire that is air-filled or designed to be air-filled, other than a tire that is used or intended to be used on a cycle, a wheelbarrow or another machine or device that is propelled solely by human or animal power.	a tire that is air filled or designed to be air filled and that is designated for use on the wheel of a vehicle	a tire that is air filled or designed to be air filled and is designed for use on the wheel of a motor vehicle, a vehicle or a trailer.	includes a pneumatic or other type of spare tire for a motor vehicle but does not include a retreaded pneumatic tire.
Scrap Tire	Used Tire	Used Tire	
a tire that is no longer suitable for its original intended purpose because of wear, damage, defect or any other reason.	a tire that is post use material and is no longer suitable for its original purpose because of wear, tear, damage, defect or other reason	a tire no longer suited for its original purpose because of wear and tear or damage.	<i>No Definition</i>
	Vehicle	Vehicle	Motor Vehicle
<i>No Definition</i>	a device in, upon or by which a person or property is or may be transported or drawn upon a highway or private road but does not include a motorized wheelchair, a device moved by human power, or a vehicle to which the Motorized Snow Vehicles and All Terrain Vehicles Act applies, a farm implement or farm machinery not used on highways, a device used exclusively on fixed rails.	every device in, upon or by which any person or property is or may be transported or drawn upon a public highway or private road, but does not include: a motorized wheel chair, a device moved by human power (including a bicycle), an off-highway vehicle, a farm implement or farm machinery.	a passenger car, automobile, motorcycle, truck, bus, truck tractor, tractor trailer or similar mobile equipment designed and used for the transportation of passengers or goods including construction equipment and tractors, combines or other agricultural implements.

**Table 3-13: Fees Charged to Consumers for Handling Used Tires**

Province	Fee	Tire Size
<b>New Brunswick</b>	\$ 3	< 17 inch / 43.2 cm
	\$ 9	> 17 inch / 43.2 cm
<b>Newfoundland and Labrador</b>	\$ 3	< 17 inch / 43.2 cm
	\$ 9	> 17 inch / 43.2 cm
<b>Nova Scotia</b>	\$ 3	< 17 inch / 43.2 cm
	\$ 9	> 17 inch / 43.2 cm < 24.5 inch / 62.2 cm
<b>Prince Edward Island</b>	\$ 4	All passenger tires

In New Brunswick, fees are collected by retailers and remitted to the New Brunswick Tire Stewardship Board (NBTSB). The NBTSB uses these fees to subsidize the cost of collection, transportation, recycling and overall management of the tire-recycling program. The Tire Recycling Atlantic Canada Corporation (TRACC) operates the collection, transportation and processing of used tires into value added products, which are directed to market. TRACC operates a 40,000 square foot facility in Minto, New Brunswick that processes approximately 600,000 tires annually (TRACC, 2001).

The products that TRACC creates from the processing of used tires include floor mats, rubber sheet stock for manufacturing equipment and auto parts, manhole and catch basin collars and risers, imitation patio blocks, and rubber blocks that can be moulded for various applications. TRACC is also working to develop other products, such as roofing shingles, using the material derived from used tire recycling.

In Nova Scotia, retailers remit the fees charged to consumers to the RRFB. The RRFB administers the tire-recycling program in the province, and uses the fees for the cost of collection and recycling. Atlantic Recycled Rubber in Kempton manages the collection and recycling of used tires in Nova Scotia. Atlantic Recycled Rubber processes some of the used tires into shredded rubber, which is sent to Ontario where it is stored or landfilled, others are sent for energy recovery in Quebec. A tender was recently issued by the RRFB for the collection and processing of used tires in Nova Scotia.

The province of Prince Edward Island manages their used tires through the Island Waste Management Corporation. As in the other provinces, a fee is charged at the point of sale of the tire, and is remitted to the province. Tires are then collected from consumers at drop-off locations and transported to a central facility. Prince Edward Island collects both passenger and larger off-road tires. Passenger tires that are currently collected are sent to facilities in Quebec and burned in cement kilns as an energy source.

Larger off-road tires are not suitable for burning in cement kilns because they are too large to fit in to the grinder portal. Prince Edward Island has stockpiles of used tires that were collected when there was no viable market for them. In order to reduce the risk of fire, other environmental effects and reduce the space required to store large volumes of the material, used passenger tires and off-road tires were baled using a hydraulic baler. Approximately 900,000 tires have been baled and are in storage in Prince Edward Island.

When used tires are baled they become deformed. Used tires that have been deformed through the baling process cause complications for machinery designed to feed incinerators. For this reason, and because supplies of unbaled used tires are readily available, the cement kilns do not accept tires that have been baled (Heather Chowen). A solution is needed for the use or disposal of the baled tires currently stockpiled.

Newfoundland and Labrador also have stockpiled used tires. The provincial program includes a management fee collected from consumers. The Multi-Materials Stewardship Board (MMSB) manages the used tire program in Newfoundland and Labrador. Consumers bring tires back to designated depots. From there, they are shipped to storage sites where they are kept until a use is found for them. Tires in Newfoundland and Labrador are collected at a rate of 340,000 – 360,000 tires per year. There are currently approximately 1.2 million (Glenda Melvin) used tires in storage in Newfoundland and Labrador.

Used tires can be used in other applications without being returned through the management programs. Tires can be used as a landscaping or construction material, as a shock absorbent barrier on wharfs, boats and tracks, as a means to control erosion, and as a method to control the movement of debris during blasting.

Of the programs for tires that are currently operating in the Atlantic Provinces, New Brunswick, Nova Scotia and Prince Edward Island have a market for the material that is collected. TRACC in New Brunswick collects and processes used tires into value added products, Nova Scotia's Atlantic Recycled Rubber produces shredded rubber and sends some to Quebec, as Prince Edward Island does with its tires, for use as an energy source in cement kilns. Nova Scotia is currently conducting a request for proposals for tire processing.

Newfoundland and Labrador does not have a market for the tires collected in the Province, therefore the tires are being stored until a solution is found. The Province of Newfoundland and Labrador has entered into an agreement in principle with an engineering company that is establishing a technology-based tire-recycling venture in the Province. A final agreement will be reached between the Multi-Materials Stewardship Board and the technology-based venture in early 2007 (NLDEC, 2006 c.).

In the case that the company does not secure funding, the Multi Material Stewardship Board (MMSB) will go ahead with a business strategy that will create tire derived aggregate from stockpiled tires as well as those that are currently being recovered. If this plan is adopted the tire derived aggregate produced will be suitable for use in civil engineering applications within Newfoundland and Labrador (NLDEC, 2006). Under the business plan, two of the three stockpiles in Newfoundland will be converted into tire-derived aggregate (NLDEC, 2006 b.). A Quebec-based recycling company has been contracted to permanently dispose of the third stockpile, as it has been deemed unsuitable for use in the proposed tire recycling technology, as well as processing into tire derived aggregate (NLDEC, 2006 b.)

### 3.3.3 ADDITIONAL MANAGEMENT PRACTICES IN CANADA

Most provinces in Canada have legislated tire management programs currently in effect, the exceptions being Ontario, the Northwest Territories and Nunavut. Across Canada, the management practices used for collecting tires and using them as resources have many similarities.

Programs in British Columbia, Yukon, Alberta, Saskatchewan, Manitoba and Quebec are all similar to those currently operating across the Atlantic Provinces. Each province charges management fees to the consumer at the point of sale of new tires. The current fees are shown in Table 3-14.

**Table 3-14: Fees Charged on Tires Across Canada**

Province	Fee	Type of Tire
<b>British Columbia</b>	\$3	All new tires
<b>Yukon</b>	\$5	Used on motorized vehicles with under 62.23 cm rim size
<b>Alberta</b>	\$4	All tires on vehicles licensed for highway use, and excluding off-road vehicles
<b>Saskatchewan</b>	No fee	Tires under 17.78 cm rim size
	\$3.50	Used on Passenger, light truck, small agricultural equipment and other tires of equal size and weight 20.32 cm-49.53 cm rim size
	\$5	Used on small and medium trucks, implements and other tires of equal size and weight 50.8 cm-62.23 cm rim size
	\$10	Used on agricultural equipment, graders and other tires of equal size and weight 60.96 cm – 127 cm rim size
	\$35	Used on off-road tires used for mining, forestry, earth moving etc. 52.07 cm – 63.5 cm rim size
<b>Manitoba</b>	\$3	All motor vehicles and trailers for use on highways
<b>Quebec</b>	\$3	All tires under 62.23 cm rim size

Products created from the processing of used tires vary by province. According to the Canadian Association for Tire Recycling agencies (CATRA), there are three major processors in British Columbia that produce used tire products, including crumb rubber, blasting mats, temporary road mats and tire derived fuel. The British Columbian government pays incentives to processors upon proof of sale of the product for use. On their website, CATRA also specifies that in Alberta more than a dozen companies are involved in making used tire products, which include shred for civil engineering projects, loose crumb, poured in place materials, moulded products, coating and sealants. Depending on the season, the tire recycling industry provides 130-250 jobs to Albertans.

Manitoba has created approximately 70 full time jobs in the tire recycling industry, according to the Manitoba Tire Stewardship Board. Approximately 80% of the used tires collected in Manitoba are recycled into moulded and stamped products as well as tire shred; the remaining 20% is used as a fuel source.

The Saskatchewan Scrap Tire Association claims that Saskatchewan has approximately seven processors of used tire material that produce products such as truck bed liners, planters, playground equipment, livestock feeders, vehicle ramps, interlocking bricks, mats, parking curbs, swings, soaker hoses, flooring, civil engineering material and tire derived fuel. According to CATRA, Quebec has approximately 18 processors in the province, of which two use tires as a fuel source, two die-cut the tire material, one shreds tires, three produce used tire crumb, and 10 make moulded products. There are currently no processors of used tires in Yukon. The Yukon government works with processors in neighbouring provinces to accept Yukon tires.

### **3.3.4 OPPORTUNITIES FOR COOPERATION BETWEEN THE ATLANTIC PROVINCES**

Finding a cost-effective method of managing used tires is generally difficult due to the large volume that they occupy and the relatively low value of the material. Transportation is costly, while baling makes processing a challenge because of the range of shapes that they retain.

In the short term, stockpiled tires should be directed to reuse, recycling, energy recovery or disposal. Prince Edward Island and Newfoundland and Labrador could cooperate to release tenders for the management of stockpiled tires. The quantity of stockpiled used tires between the two provinces adds to approximately 2.1 million tires. Approximately 900,000 of these are in the form of bales located in Prince Edward Island. The remaining 1.2 million reside in three stockpiles in the Province of Newfoundland and Labrador (NLDEC, 2006 b.).

Through cooperative efforts, the Atlantic Provinces could implement an extended producer responsibility approach to used tire management. If a producer responsibility approach were taken, the tire industry may be encouraged to consider tire design changes to facilitate the post-

consumer management of this material. In the long term, producers could cooperate with the Atlantic Provinces to research and develop the management of used tires so that it becomes less costly and more beneficial to both industry and tire consumers.

### **3.4 PLASTIC BAGS**

#### **3.4.1 ESTIMATES OF PRODUCTS SOURCES AND QUANTITIES**

Plastic grocery, bread and other food bags are typically made of #4 plastic, low-density polyethylene (LDPE), and are often included in the source-separated recyclables stream. Collection of LDPE and other plastic bags varies by region, as described in the following section (3.4.2). LDPE plastic can be recycled to yield products such as compost bins, bags, panelling, trashcans, and plastic wood products such as landscape timber, lumber and imitation cedar roofing. These materials contain between 10 and 100 percent recycled plastic content (EPIC).

Retail stores, especially grocery stores, clothing stores, corner and drugstores, and consumers of products that are packaged in these bags, including residents and visitors, generate used plastic bags.

#### **3.4.2 CURRENT LEGISLATION AND MANAGEMENT PRACTICES IN THE ATLANTIC PROVINCES**

'Waste Watch', a mandatory provincial source separation program, operates the recyclables collection program for all of Prince Edward Island. Plastic bags are included in the source separated blue bag recyclables stream, which is collected from residents at curbside by private contractors. Recyclables are then brought to a materials recycling facility, baled and sent to the best available market (Heather Chowen, IWMC).

In Nova Scotia, plastic bags are collected curbside with the collection of other recyclables, in either blue or clear plastic bags. Source separation programs are in place across Nova Scotia, supplying close to 100% of residents with curbside collection of recyclables. Some municipalities specify that only grocery bags and bread bags can be collected, while others include all plastic bags, pallet wrap and 'bubble' packaging wrap in their recycling programs. The collected plastic bags are brought to local material recycling facilities where they are baled and sent to market.

In New Brunswick, plastic bags are collected through the regional Solid Waste Commissions. The recyclable materials collected vary across the province. Some regions do not have programs, while others collect all recyclable materials available. Fredericton Region Solid Waste Commission and the Westmorland-Albert Solid Waste Corporation collect plastic bags through their curbside collection programs. The Fundy Region Solid Waste Commission and La Commission de Gestion Enviro Ressources du Nord-Ouest collect plastic bags and other recyclables at designated depots.

The 2001 *Waste Reduction and Diversion, An Action Plan for New Brunswick* notes that the regional waste management approach taken by New Brunswick “allows for the differences in population, infrastructure, and other characteristics between various areas of New Brunswick”, but can “also create inconsistencies in the broader waste management and reduction spectrum”. New Brunswick is currently moving toward province-wide consistency in waste diversion standards. Consistency within the province of New Brunswick could increase the volume of recyclable material available from the province, and help to make interprovincial cooperation in recycling materials such as plastic bags, more feasible. New Brunswick Solid Waste Commissions must apply for approval from the Department of Environment and Local Government, and under the Regional Solid Waste Commissions Regulation, of the Clean Environment Act, may only accept waste that has not been prohibited.

The Direct Charge Co-Operative store in Fredericton New Brunswick charges their members for plastic bags. Consumers that wish to use plastic bags pay for them, while consumers that bring their own cloth bags are exempt from this charge.

Newfoundland and Labrador are currently working to establish solid waste commissions. In Newfoundland, Green Depots, Nova Recycling and the Multi Material Stewardship Board accept plastics for recycling. Some of the Green Depots located across the province accept all types of plastics for recycling, including plastic bags.

### **3.4.3 ADDITIONAL MANAGEMENT PRACTICES**

Plastic bag waste is a worldwide concern and in many parts of the world programs have been established to address the reduction, reuse and recycling of plastic bags.

In the United States and Canada, plastic bags are a common litter problem. Some people use reusable bags and/or grocery bins, but in most cases there is no incentive to do so. Some grocery stores in Canada will accept returned plastic bags for recycling. Grocery stores in all four of the Atlantic Provinces currently accept plastic bags for recycling.

A case study of two Canadian stores (Wicks, 2006) that voluntarily charge customers for plastic bags indicates that positive effects have resulted. Since 1987, No Frills in Toronto, Ontario has charged \$0.05 per plastic bag, so that extra costs are not added to food prices, and to reduce the consumption of plastic bags. Hornby Island Co-op in Hornby Island, British Columbia, started to charge \$0.05 per plastic bag in 2001, in order to offset business costs and decrease plastic bag use. Hornby Island Co-op benefited from increased revenue by implementing the fee, while No Frills saved the cost of purchasing plastic bags by charging the consumer the same amount as the company pays per bag used. Customers in both cases were encouraged to

bring their own bags, but statistics are not available to assess the reduction in plastic bag use. Complaints about the fees, in both cases, have been minimal.

In many other countries, efforts are being made to reduce the use of plastic bags. Efforts include voluntary and government encouraged industry involvement to encourage customers to reduce plastic bag use by making reusable bags available, charging fees on plastic bags or offering incentives such as points on a customer card. Government has become involved in many ways including launching educational campaigns, legislating plastic bag quality, charging fees on plastic bags and even placing bans on the production and/or distribution of plastic bags.

In her report called "A Feasibility Analysis of a Canadian Plastic Bag Tax" Ericka Wicks analyses the effect that plastic bag taxes have had on three European countries. In Ireland, Denmark and Sweden, similar initiatives were taken to amend the issues related to plastic bag consumption. Ireland has introduced laws to reduce the litter created by plastic bags. In March of 2004, a levy of \$0.15 per plastic bag was implemented. This resulted in a 95% reduction in plastic bag use, and the increased use of reusable bags. The fees are collected for use by government to support environmental initiatives.

In Denmark, a law was implemented in 1993 that requires producers to charge retailers approximately 22 DKK (3.88 CAD, in 2005) per kg of plastic bags. This works out to approximately 0.22 DKK per bag, when taking into account the weight of plastic bags produced in Denmark. Retailers make a profit by charging consumers between 1.50-3.50 DKK (0.29-0.68 CAD, in 2005) per bag.

In Sweden, major grocery stores and supermarkets started the plastic bag fee initiative in 1981 in order to generate more profit, and to a lesser extent, reduce plastic bag consumption. This program is not legislated, but people must still pay the fee because plastic bags must be purchased just like any other item in the stores. The typical fees placed on plastic bags are between 1-2 SEK (approximately 0.16-0.31 CAD, in 2005). Plastic bags in Sweden are also much more durable, and can be reused many times before their end-of-life.

In Ireland, Denmark and Sweden, where fees are charged on plastic bags, the results have differed. Although Sweden's charge on plastic bags is higher than Ireland's, Ireland has seen a greater decrease in overall plastic bag use. This may be due to the fact that the Ireland government communicated to the public through educational campaigns. During the implementation of the fee, the public was notified that the reason behind the charge was to reduce plastic bag use. In contrast, the charge on plastic bags in Sweden was implemented to increase industry profit; therefore educational campaigns encouraging a reduction in plastic bag

use were not a focus. In Denmark, educational campaigns were launched, yet plastic bag use was decreased for only a short period of time.

#### **3.4.4 OPPORTUNITIES FOR COOPERATION BETWEEN THE ATLANTIC PROVINCES**

Consistent collection of LDPE material in all areas of the Atlantic Provinces would provide a stronger source of material for recycling and could also reduce plastic bag litter. New Brunswick and Newfoundland and Labrador could cooperate to develop a system for recyclables collection that could benefit areas with varying population density and infrastructure.

The provinces could cooperate on litter surveys, as previously done by Nova Scotia and Prince Edward Island, in order to identify the amounts of plastic bag litter generated, its contribution to overall litter in each of the provinces, and the producers of plastic bags (identified through brand names).

If an extended producer responsibility (EPR) approach were taken, this information could give evidence of the effect of plastic bags, and may also give a foundation for the Atlantic Provinces to jointly approach plastic bag producers, and arrange for programs that are currently in effect in some areas, such as plastic bag collection at retail locations or management systems operated cooperatively between government and industry.

Charging a fee on plastic bags has worked well in other parts of Canada and the world. Business costs are potentially reduced for grocery stores and supermarkets, and plastic bag use can be reduced if fees and educational campaigns properly illustrate the negative effects associated with them. If the Atlantic Provinces were to look into implementing a plastic bag fee there are several considerations that would have to be addressed, as further discussed in Section 4.1 of this report. Cooperation across the Atlantic Provinces for consistent policy, and cooperation with industry would be integral to making this type of program a success.

### **3.5 DISPOSABLE BEVERAGE CUPS**

#### **3.5.1 ESTIMATES OF PRODUCTS SOURCES AND QUANTITIES**

Disposable beverage cups are currently a litter issue in all of the Atlantic Provinces to varying degrees. Prevention of litter caused by disposable beverage cups could be achieved through programs that encourage the reduction of disposable cup use, the development of waste management practices and research into alternative materials.

Disposable beverage cups are generally made of plastic, polystyrene foam, or paper. Paper cups are frequently coated with wax or lined with plastic to enhance the performance of the cup. For the purpose of this report, 'paper composite cups' will be the term used for paper cups with a

plastic liner, such as those typically used to contain hot beverages purchased from quick-service food providers.

Quick-service food providers distribute their products in disposable beverage cups. As identified in litter studies conducted in Nova Scotia and PEI, major businesses in the Atlantic Provinces that serve their products in disposable beverage cups are fast food restaurants, including independent establishments. Amongst the Atlantic Provinces, there are approximately 1,206,470,000 hot drink cups and 511,320,000 cold drink cups generated annually, which are available for reuse or recycling. This estimate is shown in Table 3-15.

**Table 3-15: Expected Annual Generation of Disposable Beverage Cups in the Atlantic Provinces**

Province	Disposable Beverage Cups Available for Recycling <sup>16</sup>	
	Hot Drink Cups	Cold Drink Cups
<b>New Brunswick</b>	329,247,000	139,503,000
<b>Newfoundland and Labrador</b>	408,611,000	173,313,000
<b>Nova Scotia</b>	408,611,000	173,313,000
<b>Prince Edward Island</b>	60,001,000	25,191,000
<b>TOTAL</b>	1,206,470,000	511,320,000

### 3.5.2 CURRENT LEGISLATION AND MANAGEMENT PRACTICES IN THE ATLANTIC PROVINCES

In Prince Edward Island (2005) and Nova Scotia (2004), disposable beverage cups have been identified in litter studies as being the most common litter item. As with plastic bags, it could be beneficial for the Atlantic Provinces to cooperate to implement a plan for litter surveys in each of the Atlantic Provinces.

Through PEI's Waste Watch program, paper composite cups are currently composted at the central composting facility in Brookfield, PEI. Recyclable plastics cups #1-5 are placed in blue bags and recycled at curbside. All other cups are placed in the refuse stream.

Lunenburg, Nova Scotia accepts paper composite cups in their compost stream. Each of the waste management regions in Nova Scotia accept plastic containers #1 and #2, and all regions except Halifax Regional Municipality accept plastics #1-7. Cups made from any other materials are placed in the refuse stream.

New Brunswick's Westmorland-Albert Solid Waste Commission has teamed-up with the local Tim Horton's franchises to recycle Tim Horton's hot beverage cups, which are currently paper composite. Twenty five locations have receptacles in place for hot beverage cups, which are then collected and baled with cardboard for recycling applications such as boxboard liner (Erin Bell, Westmorland-Albert Solid Waste Commission).

Many coffee shops in the Atlantic Provinces offer a discount for using a reusable mug. If this type of incentive were encouraged and advertised, it could reduce the amount of disposable beverage cups consumed.

Litter surveys help to identify the amounts of disposable beverage cup litter generated, its contribution to overall litter in the Atlantic Provinces, and the producers of disposable beverage cups (identified through brand names). If an EPR approach were taken, this information could provide data of the effect of disposable beverage cups, and may also provide a foundation for the Atlantic Provinces to jointly approach cup producers.

### **3.5.3 ADDITIONAL MANAGEMENT PRACTICES IN CANADA**

There are currently plastics manufactured from renewable resources that decompose at the same rate as conventional compostable materials. For example, a polymer made from lactic acid, called polylactic acid (PLA), simulates PET (Eco-Products, 2006) (plastic #1) and can be used in many of the same applications, for example disposable beverage cups, and beverage and food and containers. Polyhydroxyalkanoate (PHA) is another replacement for plastic that is biodegradable.

This biodegradable alternative to conventional disposable cups is not in wide use yet. These alternatives are also made to look similar to non-biodegradable cups. Therefore, the public would have to be educated about how to recognize biodegradable and non-biodegradable cups, and the appropriate waste-resource stream for each.

### **3.5.4 OPPORTUNITIES FOR COOPERATION BETWEEN THE ATLANTIC PROVINCES**

Many plastic disposable beverage cups are recyclable. Plastic disposable beverage cups are currently being collected within plastics recycling streams in the four Atlantic Provinces, however, a large portion of the disposable beverage cups generated in Atlantic Canada still end up in the refuse stream. Collection of recyclable plastic beverage cups could be improved if the Atlantic Provinces cooperatively conduct further study of the markets for these plastics. By

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<sup>16</sup> Estimates created using Nova Scotia Environment and Labour 'Drink Cup Survey' 2004 results. A breakdown of this estimate is provided in Appendix K.

combining the beverage cup plastics from the four provinces, processing of this material within the Atlantic region may become more economical.

Paper composite cups are being composted in PEI; Lunenburg, Nova Scotia; and the Westmorland-Albert Solid Waste Commission in New Brunswick. The paper portion of these cups is biodegradable and adds to the composted material generated by these facilities. The plastic portion of these cups does not biodegrade in these composting facilities. Although the majority of paper composite cups can be composted, the small portion that does not compost properly greatly reduces the quality of the product. The presence of non-biodegradable material in compost makes it visually objectionable and thus limits its end use.

Alternative biodegradable cups are currently more expensive than conventional plastics, and may require life cycle analysis to ensure their suitability as a replacement. However, the composition and biodegradability of these polymers may receive public support. This approach, if taken, could evidently benefit from support across the Atlantic Provinces, in terms of research and development into their degradability in municipal composting facilities. Public communication would also need to be conducted to ensure the appropriate handling of this material.

### **3.6 PLASTIC BEVERAGE CONTAINERS**

#### **3.6.1 ESTIMATES OF PRODUCTS SOURCES AND QUANTITIES**

Plastic beverage containers were not a high management priority for the Atlantic Provinces and were screened out early in the process. Effort was therefore applied to the other waste-resource materials that held more promise for cooperation.

Virtually all residents and visitors to the Atlantic Provinces generate used plastic beverage containers. Used recyclable plastic beverage containers are found at festivals and events; schools, offices and other institutions; campgrounds, parks and picnic sites; fast food and other restaurants; food courts; corner stores and urban centres. Amongst the Atlantic Provinces, there are approximately 9,612 tonnes of plastic beverage containers generated annually, which are available for recycling. This estimate is shown in Table 3-16. Approximations of plastic beverage containers generated in New Brunswick, Newfoundland and Labrador as well as Nova Scotia were taken from CM Consulting "An Overview of Plastic Bottle Recycling in Canada". The estimate for Prince Edward Island was provided by Garth Simmons of the Prince Edward Island Department of Environment, Energy and Forestry, and is much lower because many of their beverages are packaged in glass containers.

**Table 3-16: Expected Annual Generation of Plastic Beverage Containers in the Atlantic Provinces**

<b>Province</b>	<b>Plastic Beverage Containers Available for Recycling</b>
<b>New Brunswick</b>	3,198 tonnes generated
<b>Newfoundland and Labrador</b>	2,712 tonnes generated
<b>Nova Scotia</b>	3,198 tonnes
<b>Prince Edward Island</b>	504 tonnes total recyclable plastics #1-5
<b>TOTAL</b>	9,612 tonnes

### 3.6.2 CURRENT LEGISLATION AND RECYCLING PRACTICES IN THE ATLANTIC PROVINCES

Plastic beverage container management is a problem largely because of the low quality and large volume of the material. During manufacturing, the quantity of plastic used to make each container is minimized to conserve resources and reduce manufacturing and shipping costs. However, when plastic beverage containers reach their end-of-life, large volumes of material with relatively small amounts of low value mass are generated. This makes transportation, handling and processing of plastic beverage containers costly.

An extended producer responsibility approach may be the best method of improving the current management of plastic beverage containers. Requiring producers to follow the environmental protection hierarchy and become involved in the management of plastic beverage container waste may encourage a change in the design of plastic beverage containers to reduce their impact on the environment. Design considerations could include making the containers refillable or capable of being recovered for reuse by beverage container producers. Containers could also be made from materials that are of higher value in the recyclables market.

The Canadian Council of Ministers of the Environment (CCME) addresses packaging stewardship at the National level. Development of policies and standards for packaging stewardship are perhaps most effective at the National level in order to be comprehensive and applied to all packaging used in Canada. However, national level packaging stewardship efforts and standards should also be supported and developed by waste management systems at the provincial level so that working waste management systems provide a strong base for national application.

An obstacle in plastics recycling is the ability to sort and separate the different types of plastic from one another. In some cases, it costs more than it is worth to have people sort the plastic material, and it cannot easily be done in an automated process because of the way that the plastics are distinguished from one another: using a small visual identification number. There have been advancements in this type of technology although automated plastics sorting equipment is relatively expensive and not yet widely used.

## 4. SPECIAL ISSUES, BARRIERS AND OPPORTUNITIES

### 4.1 EXTENDED PRODUCER RESPONSIBILITY

Waste professionals are in general agreement that Extended Producer Responsibility is the preferred manner in which products should be managed from cradle to grave. There are a number of principles that are inherent in EPR programs, such as:

- That producers are responsible for their products when they become waste;
- The requirement that taxpayers do not pay for the management of end-of-life products;
- The management of wastes is done in an environmentally responsible manner; and,
- That consumers have ready access to the system developed to handle the waste.

Extended Producer Responsibility is inherently more difficult to achieve than the more typical system whereby municipal governments handle all waste, by providing disposal facilities and/or collection, recycling and composting. Usually the cost is borne by taxpayers and the producers do not have any costs or responsibilities. This system has contributed to an increase in one-way disposal products and reduction in re-use of products.

An often-cited example of what may go wrong with EPR models is the milk container. At one time dairies would collect empty bottles at the household as they delivered full bottles of milk. The empty bottles would be collected, cleaned and refilled at the cost of the dairy, which would pass that cost on in the price of the milk, which was paid by the consumer. Suddenly, milk was put in one-way disposable cartons that were to be thrown out in the consumer's garbage. Just as suddenly, the dairy was freed from the expense of collecting, cleaning and refilling the bottles. And in turn, the cost of disposal of the new waste product was transferred to the taxpayer who funded municipal programs. To be fair, in recent times, dairies have chipped in to help pay for the cost of recycling their containers, but this does not constitute product stewardship as the industry does not pay at all for the disposal of their containers when they are not recycled.

It is difficult for provincial governments to foster producer responsibility on their own for a number of reasons, including:

- It is difficult to set requirements for products in one jurisdiction when producers usually span provincial and federal boundaries, and often times the globe;
- Inconsistent requirements for responsibility are difficult for producers to meet;
- Single governments, particularly at the provincial and municipal levels, often lack the necessary clout to change the behaviours of large producers; and,

- Regulating local producers can put them in a difficult competitive position in markets where other producers do not have to meet the same requirements.

Extended Producer Responsibility is more practical and fair to all members of an industry when the jurisdictions that are implementing EPR regulations are larger rather than smaller, and when adjacent jurisdictions have similar regulations.

There is already work being done by the CCME on Producer Responsibility. Cooperation among the Atlantic Provinces would be an important step forward in progress in EPR in Canada.

## 4.2 BENEFITS OF COOPERATION

An important consideration in cooperation is the sharing of benefits to all of the provinces. Benefits can be realized through cooperation, including:

- Reduced administrative costs;
- Economies of scale;
- Improved environmental protection; and
- A more transparent and effective regulatory framework in order to foster extended producer responsibility.

### Sharing Economic Benefits

There are two current examples of facilities in Nova Scotia that process materials from more than one province. NovaPET in Nova Scotia recycles plastic collected in other provinces, and Laurentide accepts paint from three provinces at their facility in Nova Scotia and sends it off to their processing facility in Quebec.

In consideration of opportunities to cooperate on waste management, it is natural for the provinces to wish to share the benefits of such cooperation equitably. If there were to be a processing plant for used oil for instance, each of the provinces would be keen to have the plant located in their provinces in order to have the attendant jobs.

An agreement to cooperate will define how such benefits will be shared. For facilities that are developed by the provinces, sharing is easier to attain than it is for facilities that are developed by the private sector, who are free to establish their facilities wherever they see fit, although the provinces could provide an incentive for siting in a particular area. Such an approach is not recommended, as the private sector will be more interested in siting facilities where it makes the most economic sense, and they will be less interested in helping the provinces in their effort for equitable distribution of jobs.

Accomplishing such an equitable distribution though, is going to require strategic planning and forecasting. For instance, for many materials it will be difficult to establish a facility in Newfoundland and Labrador to process for all Atlantic Provinces, given the difficulties in transportation and the quantities of waste generated in each province. For that reason, opportunities to establish facilities in Newfoundland and Labrador should be taken where they can be found.

### **Transportation Costs**

Generally, the province which hosts a production facility benefits not only from the jobs created, but also from the fact that having a local facility results in reduced transportation costs in getting recovered materials to the facility. One manner of distributing the benefits of a centralized location would be to subsidize the transportation costs of the other provinces to the facility.

### **Environmental Costs**

Just as hosting a facility can have job creation benefits and transportation benefits, there can also be a risk in hosting such facilities. The risk of fire at a plastics or tire facility should be weighed against the benefits.

### **Efficiency Considerations**

The concept of equitable regional distribution of jobs is attractive. However, it may not be cost effective from an operational standpoint if the facilities are located a great distance from the center of generation. When requirements to place a facility in a particular area or create jobs for certain provinces are added to the criteria for processing, it is likely to add inefficiencies.

## **4.3 REGIONAL COOPERATION**

In order to cooperate effectively, the provinces will need to harmonize many things: regulations, priorities, collection systems, marketing efforts, and processing, to name a few. Each province will have to consider its own priorities, challenges and opportunities, but also those of its partners. Opportunities for cooperation in contracting services, shifting responsibilities to producers, joint marketing and problem solving require close working relationships and common understanding of each other.

It is unlikely that joint efforts will be substantial unless there is some sort of agency; committee or process established that helps integrate planning among the provinces. The role of such an Agency may include:

- Identification of challenges and opportunities;

- Joint policy and regulation development;
- Consistent and united approaches to industry to foster Extended Producer Responsibility;
- Cooperation to take advantage of economies of scale;
- Larger clout in lobbying to the federal government and for attracting funds for capital projects and research and development.

There are a number of models for cooperation that could be considered. Some illustrative possibilities are:

- A senior level management committee, which would regularly meet to discuss issues and opportunities;
- A joint office of waste management, with a small staff and budget which would coordinate work on issues, conduct research and develop policy, but would not have responsibility for waste management, and would report to the Director level at each provincial Department of the Environment;
- A regional waste management authority, which could have responsibility for waste management for all four provinces, and which could report directly to an Atlantic Council of Ministers of the Environment.

## 5. CONCLUSIONS

All four provinces have made significant progress towards responsible management of solid waste and resource recovery. Each province recognizes the social, economic and environmental value of resource recovery. Recognizing that economies of scale may open up larger markets and/or reduce collection and processing costs can often maximize the benefits of resource recovery.

For the Atlantic Provinces to leverage the benefits of economies of scale on a regional level, it is necessary to have common objectives, supported by compatible governance. A central authority or inter-governmental committee is the most common vehicle used to achieve this. It is the role of this Authority to coordinate recovery efforts and work to maximize the economic benefits for the entire region as a single entity.

Clearly, the economies of scale will also apply to the implementation of collection and processing facilities, for example the centre of generation often represents the most cost effective staging area for processing. However, many other factors must also be considered in the implementation of a regional recovery system, such as transportation corridors, proximity to the final markets, available labour, and regional economic development initiatives. A central Authority would work to ensure each province shares both the benefits, and the costs, of a Regional Waste/Resource recovery system.

This study may be considered the first step in developing a Regional Waste / Resource Recovery plan. The project team has consulted with Government and private sector representative in each province. This consultation has identified potential resource materials, and markets, that if managed on a Regional basis may result in greater economic and environmental benefits.

The results of the work program support the following conclusions.

***1. The Atlantic Provinces may consider a cooperative approach to the management of used oil, oil containers and filters.***

Rationale - Existing recovery efforts are not consistent across the four Atlantic Provinces. For example, used oil containers, and used oil filters, are not collected in all jurisdictions. For the most part, the regulations and disposal requirements for used oil are similar amongst the Atlantic Provinces. However, testing and reporting requirements, as well as contaminant limits require harmonization. Product manufacturers have been active in the promotion of used oil recovery and support current initiatives. Industry stewardship models have already been implemented by many, but not all, jurisdictions in the Atlantic Region

Increased waste oil recovery may be achieved through consistent governance and region wide oil container and filter collection programs. The reduction in illicit waste oil disposal will have a significant environmental and economic benefit. Finally, the economies of scale of a regional waste oil collection program would support the development of commercial processing facilities in the Atlantic Region.

**2. *The Atlantic Provinces may consider creating a database for the sale, recovery and end use of waste-resources.***

A database should be created to track the sale, recovery and end use of oil, oil filters and oil containers. This effort could later be extended to include other recyclable materials such as paint, tires, plastics, fibre products, glass, metals etc. This sort of inventory would help to characterize the recycling markets for various materials. Making this information accessible to the public could provide readily available and complete information on where to return materials, and how they are managed after being discarded by consumers.

**3. *The Atlantic Provinces may consider a cooperative approach to management of unused paint and coatings.***

Rationale – Existing efforts are not consistent across the four provinces. Nova Scotia has a paint stewardship program that provides for the collection of unused paint through Enviro-Depots. New Brunswick, Newfoundland and Labrador and Prince Edward Island currently collect paint through Household Hazardous Waste depots (HHW). Industry stewardship models have already been implemented, and accepted, in many jurisdictions.

According to the company that processes paint collected through the Nova Scotia program, recovery rates in each province do not meet the minimum volumes required to sustain a local processing facility. However, they have also indicated that if the unused paint were managed regionally, a regional processing facility would be economical. A regional processing centre would provide employment opportunities and related economic spin-offs. The increased recovery of paint and other coatings would also reduce environmental impacts associated with landfill disposal and illegal dumping.

**4. *The Atlantic Provinces may consider the creation of an Inter-Provincial Waste/Resource Management Office, or Committee.***

Rationale – Optimizing waste reduction and resource recovery programs requires the cooperation of many municipal, provincial and private sector interests. An effective way to ensure a lasting forum for dialogue and decision-making is the establishment of a single point of administration. The Atlantic Provinces have a history of successful cooperation. Many successful private and government agencies exhibit this cooperation. Examples include energy, transportation, agriculture, and tourism.

**5. *The Atlantic Provinces may consider Producer Responsibility as a key guiding principle in the establishment of Waste-Resource cooperative programs.***

Rationale – It is generally accepted in the waste management industry that having producers take responsibility for the recovery (or disposal) of their products is an efficient and equitable manner of managing waste. The Organisation for Economic Co-operation and Development (OECD) has established Extended Producer Responsibility (EPR) as a policy tool for addressing environmental concerns from products at the post-consumer stage (OECD, 2001). It is felt that producers will make changes to their products in order to make them easier to recycle if they are responsible for doing so. Although consumers will ultimately bear the costs of end-of-life management even when producer responsibility is in place; this approach is more appropriate than having all municipal taxpayers pay for the costs associated with the end-of-life management of products consumed by a portion of the population.

In conclusion, this study may be considered the first step in developing a Regional Waste-Resource Management Cooperative Initiative. The project team have consulted with both government and private sector representatives in each province and have concluded that regional cooperation in the area of waste-resource management would result in greater regional economic benefits and a healthier environment.

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# **APPENDIX A**

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**Population Estimates for 2006 from Statistics Canada**

## Appendix A – Population Estimates for 2006 from Statistics Canada

### Statistics Canada Population Estimates (2006)

<b>Province</b>	<b>Estimated Population (2006)</b>
<b>New Brunswick</b>	751,111
<b>Newfoundland and Labrador</b>	514,409
<b>Nova Scotia</b>	936,988
<b>Prince Edward Island</b>	138,157

# **APPENDIX B**

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## **Provincial Representatives Survey and Survey Results**

## ATLANTIC PROVINCES SOLID WASTE-RESOURCE COOPERATIVE INITIATIVE

### Questionnaire for Provincial Government Stakeholders

#### Introduction:

In September 2005, Environment Ministers for New Brunswick, Newfoundland and Labrador, Nova Scotia and PEI announced a regional approach to environmental issues, and one, which would seek an equitable sharing of the potential benefits among the four provinces, wherever possible. The provinces formalized this commitment by establishing the Atlantic Council of Ministers of Environment.

The Council identified recycling and solid waste as priority areas for collaboration. The four Atlantic Provinces agreed to engage a consultant to identify areas of cooperation and make recommendations for regional programs to manage specific waste products and packaging. This approach will be primarily based on Extended Producer Responsibility (EPR) programs but not to the exclusion of other appropriate policy and regulatory approaches to waste diversion and recycling within the region.

Through deputy ministers and staff meetings, six specific materials were identified for study. As part of this initiative, we are conducting this survey to determine where cooperation is possible.

The survey consists of the same set of questions for each of the six waste materials: plastic bags, plastic beverage containers, disposable beverage cups, paint, used oil, oil containers and oil filters, and tires.

#### I. PLASTIC BAGS

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**1. On a scale from 1 to 5, do you think plastic bags are a management priority for your province? If yes, what is driving the priority?**

- . 1 (not a priority) to 5 (major priority)
- . Don't know
- . Comments:

**2. What is currently done with plastic bags in the province?**

**3. Are plastic bags identified in your province under a policy or a regulation?**

**a. If yes, which one?**

**b. If no, has your department considered any specific policies to address plastic bags in your province?**

## Appendix B – Provincial Representatives Survey and Survey Results

4. What opportunities exist to increase diversion of plastic bags?
5. Do you think that plastic bag recycling:
  - a. Would be improved if there was an economic incentive or lever in place?  
(Ex: deposit/mandatory recycling target for manufacturers)
  - b. Would provide opportunities for employment?
6. Do you think plastic bag recycling would:
  - a. Benefit from a joint marketing approach between the four provinces?
  - b. Benefit from a joint R&D approach between the four provinces?
  - c. Benefit from a joint infrastructure approach between the four provinces?
7. Do you think a standard policy or approach between the four provinces would be useful to deal with plastic bags? Why?
8. In your province, who are the major:
  - a. Producers of plastic bags?
  - b. Generators of plastic bag waste?
  - c. Collectors of plastic bag waste?
  - d. Processors of plastic bag materials?
9. Is there anyone else in the provincial government I should talk to about plastic bags?

## II. PLASTIC BEVERAGE CONTAINERS

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1. On a scale from 1 to 5, do you think plastic beverage containers are a management priority for your province? If yes, what is driving the priority?
  - . 1 (not a priority) to 5 (major priority)
  - . Don't know
  - . Comments:
2. What is currently done with plastic beverage containers in the province?

## Appendix B – Provincial Representatives Survey and Survey Results

3. Are plastic beverage containers identified in your province under a policy or a regulation?
  - a. If yes, which one?
  - b. If no, has your department considered any specific policies to address plastic bags in your province?
4. What opportunities exist to increase diversion of plastic beverage containers?
5. Do you think that plastic beverage container recycling:
  - a. Would be improved if there was an economic incentive or lever in place?  
(Ex: deposit/mandatory recycling target for manufacturers)
  - b. Would provide opportunities for employment?
6. Do you think plastic beverage container recycling would:
  - a. Benefit from a joint marketing approach between the four provinces?
  - b. Benefit from a joint R&D approach between the four provinces?
  - c. Benefit from a joint infrastructure approach between the four provinces?
7. Do you think a standard policy or approach between the four provinces would be useful to deal with plastic beverage containers? Why?
8. In your province, who are the major:
  - a. Producers of plastic beverage containers?
  - b. Generators of plastic beverage container waste?
  - c. Collectors of plastic beverage container waste?
  - d. Processors of plastic beverage container materials?
9. Is there anyone else in the provincial government I should talk to about plastic beverage containers?

### III. DISPOSABLE BEVERAGE CUPS

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1. On a scale from 1 to 5, do you think disposable beverage cups are a management priority for your province? If yes, what is driving the priority?
  - . 1 (not a priority) to 5 (major priority)
  - . Don't know
  - . Comments:

## **Appendix B – Provincial Representatives Survey and Survey Results**

2. **What is currently done with disposable beverage cups in the province?**
3. **Are disposable beverage cups identified in your province under a policy or a regulation?**
  - a. **If yes, which one?**
  - b. **If no, has your department considered any specific policies to address disposable beverage cups in your province?**
4. **What opportunities exist to increase diversion of disposable beverage cups?**
5. **Do you think that disposable beverage cup container recycling:**
  - a. **Would be improved if there was an economic incentive or lever in place?**  
(Ex: deposit/mandatory recycling target for manufacturers)
  - b. **Would provide opportunities for employment?**
6. **Do you think disposable beverage cup recycling would:**
  - a. **Benefit from a joint marketing approach between the four provinces?**
  - b. **Benefit from a joint R&D approach between the four provinces?**
  - c. **Benefit from a joint infrastructure approach between the four provinces?**
7. **Do you think a standard policy or approach between the four provinces would be useful to deal with disposable beverage cups? Why?**
8. **In your province, who are the major:**
  - a. **Producers of disposable beverage cups?**
  - b. **Generators of disposable beverage cup waste?**
  - c. **Collectors of disposable beverage cup waste?**
  - d. **Processors of disposable beverage cup materials?**
9. **Is there anyone else in the provincial government I should talk to about disposable beverage cups?**

**IV. PAINT**

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- 1. On a scale from 1 to 5, do you think paint is a management priority for your province? If yes, what is driving the priority?**
  - . 1 (not a priority) to 5 (major priority)
  - . Don't know
  - . Comments:
- 2. What is currently done with paint in the province?**
- 3. Is paint identified in your province under a policy or a regulation?**
  - a. If yes, which one?
  - b. If no, has your department considered any specific policies to address paint in your province?
- 4. What opportunities exist to increase diversion of paint?**
- 5. Do you think that paint recycling:**
  - a. Would be improved if there was an economic incentive or lever in place?  
(Ex: deposit/mandatory recycling target for manufacturers)
  - b. Would provide opportunities for employment?
- 6. Do you think paint recycling would:**
  - a. Benefit from a joint marketing approach between the four provinces?
  - b. Benefit from a joint R&D approach between the four provinces?
  - c. Benefit from a joint infrastructure approach between the four provinces?
- 7. Do you think a standard policy or approach between the four provinces would be useful to deal with paint? Why?**
- 8. In your province, who are the major:**
  - a. Producers of paint?
  - b. Generators of waste paint?
  - c. Collectors of waste paint?
  - d. Processors of waste paint?
- 9. Is there anyone else in the provincial government I should talk to about paint?**

## V. USED OIL, OIL CONTAINERS AND OIL FILTERS

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1. **On a scale from 1 to 5, do you think used oil, oil containers and oil filters are a management priority for your province? If yes, what is driving the priority?**
  - . 1 (not a priority) to 5 (major priority)
  - . Don't know
  - . Comments:
2. **What is currently done with used oil, oil containers and oil filters paint in the province?**
3. **Are used oil, oil containers and oil filters paint identified in your province under a policy or a regulation?**
  - a. **If yes, which one?**
  - b. **If no, has your department considered any specific policies to address paint in your province?**
4. **What opportunities exist to increase diversion of used oil, oil containers and oil filters?**
5. **Do you think that used oil, oil container and oil filter recycling:**
  - a. **Would be improved if there was an economic incentive or lever in place?**  
(Ex: deposit/mandatory recycling target for manufacturers)
  - b. **Would provide opportunities for employment?**
6. **Do you think used oil, oil container and oil filter recycling would:**
  - a. **Benefit from a joint marketing approach between the four provinces?**
  - b. **Benefit from a joint R&D approach between the four provinces?**
  - c. **Benefit from a joint infrastructure approach between the four provinces?**
7. **Do you think a standard policy or approach between the four provinces would be useful to deal with used oil, oil containers and oil filters? Why?**

## Appendix B – Provincial Representatives Survey and Survey Results

8. In your province, who are the major:
  - a. Producers of oil, oil containers and oil filters?
  - b. Generators of used oil, oil container and oil filter waste?
  - c. Collectors of used oil, oil container and oil filter waste?
  - d. Processors of used oil, oil container and oil filter waste?
9. Is there anyone else in the provincial government I should talk to about used oil, oil container and oil filter waste?

### VI. TIRES

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1. On a scale from 1 to 5, do you think tires are a management priority for your province? If yes, what is driving the priority?
  - . 1 (not a priority) to 5 (major priority)
  - . Don't know
  - . Comments:
2. What is currently done with tires in the province?
3. Are tires identified in your province under a policy or a regulation?
  - a. If yes, which one?
  - b. If no, has your department considered any specific policies to address paint in your province?
4. What opportunities exist to increase diversion of tires?
5. Do you think that tire recycling:
  - a. Would be improved if there was an economic incentive or lever in place?  
(Ex: deposit/mandatory recycling target for manufacturers)
  - b. Would provide opportunities for employment?

## **Appendix B – Provincial Representatives Survey and Survey Results**

- 6. Do you think tire recycling would:**
    - a. Benefit from a joint marketing approach between the four provinces?**
    - b. Benefit from a joint R&D approach between the four provinces?**
    - c. Benefit from a joint infrastructure approach between the four provinces?**
  - 7. Do you think a standard policy or approach between the four provinces would be useful to deal with tires? Why?**
  - 8. In your province, who are the major:**
    - a. Producers of tires?**
    - b. Generators of waste tires?**
    - c. Collectors of waste tires?**
    - d. Processors of waste tires?**
  - 9. Is there anyone else in the provincial government I should talk to about tires?**
- 

### **Additional Questions for all six materials combined:**

- A. What are the advantages to the provinces of cooperating on recycling any of these materials?**
- B. What are the barriers of cooperating on recycling any of these materials?**
- C. Are there any other materials generated in your province that this type of cooperation initiative could be applied to?**

Appendix B - Provincial Representatives Survey and Survey Results

		Priority ( 1-5: 1= lower priority, 5 = higher priority)				
Name of Participant		New Brunswick		Newfoundland and Labrador	Nova Scotia	Prince Edward Island
Item		Frank LeBlanc	Mark Boldon	Brenda Rowe	Bob Kenney	Sean Ledgerwood
1. Disposable Cups		2	2	3	4	5; concerned about roadside litter
2. Plastic Beverage Containers		3; already managed	2; already have beverage container program	5; major priority	3; continued priority, already managed	2; not high, want to reduce use or turn to alternate types
3. Plastic Bags		3; already managed	2; system already in place	1; MMSB has no plans underway for these	4; Visibility of the waste, and concern to the general public	4; would like more reuse
4. Paint		5; high priority	5; program needed	5; high priority	3; program in place	4; expensive for HHW to deal with paint
5. Used Oil		4; a priority	5; environmental concern	5	4; this is a hazardous waste, need increased diversion rates, find markets for the material	4-5; concerned about contamination
Oil Containers		/	/	/	/	/
Oil Filters		/	/	/	/	/
6. Tires		3; continued priority	3-4; concern because of the volume produced	5; high priority	5; program needs updating	4-5; stockpiles

**Appendix B - Provincial Representatives Survey and Survey Results**

Name of Participant		Current Management Practices				
		New Brunswick		Newfoundland and Labrador	Nova Scotia	Prince Edward Island
Item	Frank LeBlanc	Mark Boldon	Brenda Rowe	Bob Kenney	Sean Ledgerwood	Heather Chownen
<b>1. Disposable Cups</b>	Collected in Refuse Stream	minimal recycling by some commissions	Disposed of in refuse stream	Refuse for most of the province, Lunenburg composts	Tim Horton's type cups are composted (ADI)	Paper goes into organics stream, plastics go into the recycling stream
<b>2. Plastic Beverage Containers</b>	Solid Waste Commissions handle them	Deposit/Refund system, handled by the redemption centres, collected, baled, sent to market	Deposit/Refund system, depot collection, baled, sent to market	Beverage containers: RRFB, NovaPET seeking more supply	Plastics #1-5 are recycled	Blue Bag plastic #2, baled and sent to market. No deposit charged on containers
<b>3. Plastic Bags</b>	Collected by Solid Waste Commissions	Collected through recycling stream of solid waste commissions, part of the NB action plan	Some grocery stores collect them for recycling	Curbside recycling, grocery store collection bins	Recycled through the Waste Watch Program	Waste Watch program has mandatory source separation, done by all residents. Baled and sent out of province.
<b>4. Paint</b>	Handled by HHW programs	Large portion managed through HHW collection days. Some, if dried, goes to landfill	Collected through HHW days for recycling	Taken to Enviro Depots, sent to Springhill, managed by RRFB	Handled by HHW depots	General public bring back to HHW depots free of charge, businesses pay a high price to dispose as HHW. Lab packed and sent for recycling or cement kilned
<b>5. Used Oil</b>	Oil program can be improved	Return to retail (or within 10km)	Landfilled, Harvey's Oil collects some	Oil collected by all retailers or depot (usually a gas station) near retailer	Retailer take-back program. 5L per day max for residents. Recycled oil burned as a fuel source.	Take back to retailer program, then collected.
<b>Oil Containers</b>	Not currently managed (refuse)	Can be recycled if properly drained	/	Refuse Stream, Yarmouth collects them at curbside	Reused or thrown out	Refuse
<b>Oil Filters</b>	Not currently managed (refuse)	Can be drained and reprocessed	could have oil filters returned, then crushed, drained and recycled.	May go to SafetyKleen	Not Currently Managed (refuse)	Refuse
<b>6. Tires</b>	TRACC collects, processes, manufactures	/	MMSB collects used tires through a return-to-retailer system, tires currently in temporary storage.	Fee charged at sale, returned to retailers	Drop-off program, tax charged per tire.	\$4 fee per tire, collected and taken to a central management facility, some burned in cement kilns in Quebec

**Appendix B - Provincial Representatives Survey and Survey Results**

Name of Participant <b>Item</b>	Additional Notes					
	New Brunswick		Newfoundland and Labrador	Nova Scotia	Prince Edward Island	
	Frank LeBlanc	Marc Boldon	Brenda Rowe	Bob Kenney	Sean Ledgerwood	Heather Chowen
<b>1. Disposable Cups</b>	Joint marketing	Recognized as something that should be looked at, work with retailers/manufacturers/commissions to find the best option. Good opportunity to work cooperatively	Discussion of EPR and lever models (would not be cost effective), hard to recycle, probably not enough in NL to make feasible	Encourage use of mugs, encourage compostable materials	Interest shown in a fee per cup	Current source separation program works well
<b>2. Plastic Beverage Containers</b>	Economic incentive would be good, but might indirectly inflate values	Public awareness campaign might help, but already good	Could expand program to include all beverage containers	Improve return rate, funding mechanisms, litter reduction, education, "some beverage containers are very difficult to recycle - this could be addressed by all four provinces"		Consistency across provinces helps
<b>3. Plastic Bags</b>		may benefit from public awareness and education	Opportunities for manufacturing plastic wood products/lower grade garbage bags. EPR may work best	Need education, EPR, voluntary industry involvement	Want to concentrate on new ideas, tax? Reusable bins?	Would be helpful if end market was in PEI, consistency across provinces for practices and packaging
<b>4. Paint</b>	Accessibility can be improved	Waste paint needs management from an environmental perspective, currently no regulation in place	No existing regulations. Investigating a program, proposal in place by the MMSB	Education, full refund fee on container, harmonize infrastructures,	Better access to return facilities, EPR program?	Stewardship would help pay for costs (like NS). Somehow reduce costs to businesses.
<b>5. Used Oil</b>	No current requirement to report the quantities sold. Would like EPR program, moving toward use as a fuel source.	Environmental concern if improperly handled. Regulations need amending	cooperation would increase resources	changes to regs have been researched, EPR, most oil comes from IC&I sector need to find best markets	Regulations are out of date and need improvement. Moving toward EPR	Need to find markets for the material
<b>Oil Containers</b>	/	looking at including in regs.	/	Need Program for containers and filters	/	Residual oil in containers can be problematic
<b>Oil Filters</b>	/	looking at including in regs.	/	/	/	Residual oil in filters can be problematic
<b>6. Tires</b>	R&D required	continues to be an environmental concern for handling	No existing incentive for returning the tires, cooperation provides opportunities to share resources	cost of recycling is increasing, tire fee may need to be increased	Nothing is done with the collected tires	Recycling them in Kemptown, NS, was more expensive than having them sent to Quebec for use in a cement kiln

# **APPENDIX C**

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## **Used Oil, Used Oil Filter and Used Oil Container Generation Estimates**

## Appendix C – Used Oil, Used Oil Filter and Used Oil Container Generation Estimates

### USED OIL, USED OIL FILTER and USED OIL CONTAINER GENERATION ESTIMATES

#### Sample Calculation Using Prince Edward Island

**Given:** Alberta Population Estimate in 2004<sup>1</sup> = 3,215,859 people

Prince Edward Island Population Estimate in 2006<sup>2</sup> = 138,157 people

Used Oil Generated in Alberta in 2004<sup>3</sup> = 94,248,000 L

Used Oil Filters Generated in Alberta in 2004<sup>4</sup> = 7,696,000 filters

Used Oil Containers Generated in Alberta in 2004<sup>5</sup> = 2,679,000 kg

Density of Used Oil<sup>6</sup> = variable, but usually below 0.9 kg/L

#### **Method:**

Since Alberta has the longest running used oil, used oil filter and used oil container management program in Canada, the numbers from the Alberta Used Oil Management Association's 2004 report were used to establish generation estimates for the Atlantic Provinces.

To extrapolate the generation data for the Atlantic Provinces based on the Alberta report, population data from Statistics Canada population estimates were used. The 2004 population estimate for Alberta was used to correlate with the generation estimates provided in the 2004 report. To obtain current estimates of generation in the Atlantic Provinces, population estimates for 2006 were used.

To estimate the weight of used oil that corresponds to the estimated volume generated, a maximum density was used because the density of used oil depends on the type of oil and its level of contamination, but typically remains below 0.9 kg/L. This density estimate was taken from the Used Oil Materials Safety Data Sheet<sup>7</sup> created by the Recycling Oil Saves the Environment Foundation.

#### **Assumptions:**

It was assumed that for the purpose of this estimate, the per capita consumption of oil, oil filters and oil containers was the same for Alberta and the Atlantic Province. It was also assumed that the consumption did not increase significantly between the years of 2004 and 2006. For more detailed application of these numbers it may be necessary to research the differences to obtain more accurate estimates.

#### **Calculations:**

*Formulas:* Amount Generated ÷ Population of Alberta = Per Capita Generation Rate  
Per Capita Generation Rate x Population of PEI = Amount Generated

Used Oil Generated/year ÷ Alberta Population = Used Oil Per Capita Generation Rate in Alberta

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1 Statistics Canada Population Estimates: <http://www.statcan.ca/Daily/English/060328/d060328e.htm>

2 Ibid

3 Alberta Used Oil Management Association Annual Report, 2004

4 Ibid

5 Ibid

6 Recycling Oil Saves the Environment Foundation Website: <http://www.rosefoundation.org.za>

7 Ibid

## Appendix C – Used Oil, Used Oil Filter and Used Oil Container Generation Estimates

$94,248,000 \text{ L} \div 3,215,859 \text{ persons} = 29.31 \text{ L/person/year used oil generated}$

Used Oil Filters/year  $\div$  Alberta Population = Used Oil Filter Per Capita Generation Rate in Alberta  
 $7,696,000 \text{ filters} \div 3,215,859 \text{ people} = 2.39 \text{ used oil filters/person/year generated}$

Used Oil Containers/year  $\div$  Alberta Population = Used Oil Container Per Capita Generation Rate in Alberta  
 $2,679,000 \text{ kg} \div 3,215,859 \text{ people} = 0.83 \text{ kg/person/year used oil container}$

Used Oil Per Capita Generation Rate  $\times$  PEI Population = Used Oil Generated/year  
 $29.31 \text{ L/person/year} \times 138,157 \text{ people} = 4,049,381.67 \text{ L used oil/year}$   
 $\approx 4,049,000 \text{ L used oil/year}$

Volume Used Oil /year  $\times$  Maximum Density of Used oil = Maximum Weight Used Oil/year  
 $4,049,000 \text{ L used oil/year} \times 0.9 \text{ kg/L} = 3,644,100 \text{ kg used oil/year}$   
 $\approx 3,644,000 \text{ kg used oil/year}$

Used Oil Filter Per Capita Generation Rate  $\times$  PEI Population = Used Oil Filters Generated/year  
 $2.39 \text{ used oil filters/person/year} \times 138,157 \text{ people} = 330,614 \text{ used filters/year}$   
 $\approx 331,000 \text{ used filters/year}$

Used Oil Container Per Capita Generation Rate  $\times$  PEI Population = kg Used Oil Containers in PEI  
 $0.83 \text{ kg used oil container/person/year} \times 138,157 \text{ people} = 115,110 \text{ kg used containers/year}$   
 $\approx 115,000 \text{ kg used containers/year}$

### Results:

#### Per Capita Generation Estimates

Province	Used Oil Per Capita Generation	Used Oil Filter Per Capita Generation	Used Oil Container Per Capita Generation
Alberta (2004)	29.31 L/person/year	2.39 filters/person/year	0.83 kg/person/year

## Appendix C – Used Oil, Used Oil Filter and Used Oil Container Generation Estimates

### Provincial Generation Estimates

Province	Used Oil Generation Estimate		Used Oil Filter Generation Estimate	Used Oil Container Generation Estimate
	Prince Edward Island	4,049,000 L oil/year	3,644,000 kg used oil/year	331,000 filters/year

The same calculations were performed for New Brunswick, Newfoundland and Labrador and Nova Scotia to obtain the results shown in Table 4-2.

### Sources of Error:

Sources of error in this estimate are:

- Oil consumption differences between 2004 and 2006, and between Alberta and the Atlantic Provinces.
- The accuracy of the generation estimates in the Alberta Used Oil Management Association 2004 Report.

# **APPENDIX D**

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## **Atlantic Canada Used Oil Regulations**

[New-Brunswick >> Statutes and Regulations >> N.B. Reg. 2002-19 >> Complete text](#)

**Citation:** Used Oil Regulation - Clean Environment Act, N.B. Reg. 2002-19

**Version available as of 2006-05-15** (Last update on CanLII: 2006-05-15)

**URL:** <http://www.canlii.org/nb/laws/regu/2002r.19/20060515/whole.html>

**Enabling Statute:** [Clean Environment Act](#), R.S.N.B. 1973, c. C-6

**Information about this text**

Consolidation: March 24 2005

**NEW BRUNSWICK  
REGULATION 2002-19**

**under the**

**CLEAN ENVIRONMENT ACT  
(O.C. 2002-95)**

Filed March 5, 2002

Regulation Outline

Citation.....  
1

Definitions.....  
2

Act — Loi

*Air Quality Regulation — Règlement sur la qualité de l'air*

carrier — transporteur

- Carrier Approval — agrément de transporteur
- contaminate used oil — contaminer de l'huile usée
- generator — producteur
- industrial vendor — vendeur industriel
- lubricating oil — huile lubrifiante
- motor vehicle — véhicule à moteur
- oil — huile
- receiver — receveur
- return facility — installation de retour
- used lubricating oil — huile lubrifiante usée
- used oil — huile usée
- vendor — vendeur
- waste derived fuel — carburant dérivé de déchets

*Water Quality Regulation — Règlement sur la qualité de l'eau*

Prohibitions.....  
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Generators.....  
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Vendors.....  
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Return  
facilities.....  
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Carrier  
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SCHEDULE A

Under section 32 of the *Clean Environment Act*, the Lieutenant-Governor in Council makes the following Regulation:

## Citation

1 This Regulation may be cited as the *Used Oil Regulation - Clean Environment Act*.

## Definitions

2 In this Regulation

"Act" means the *Clean Environment Act*; (« *Loi* »)

"*Air Quality Regulation*" means the *Air Quality Regulation - Clean Air Act*; (« *Règlement sur la qualité de l'air* »)

"carrier" means the holder of a Carrier Approval; (« *transporteur* »)

"Carrier Approval" means a valid and subsisting Carrier Approval issued under section 7 or renewed under section 10; (« *agrément de transporteur* »)

"contaminate used oil" means

(a) directly or indirectly to add to used oil any substance with a flashpoint of less than 61 degrees Celsius, or

(b) directly or indirectly to add to used oil a substance containing more than 5 milligrams per kilogram of polychlorinated biphenyls (PCBs) or containing more than 1000 milligrams per kilogram of total organic halogens (as chlorine); (« *contaminer de l'huile usée* »)

"generator" means a person who causes oil to become used oil directly through personal use or in the course of operating a business enterprise or indirectly as a vendor of oil; (« *producteur* »)

"industrial vendor" means a vendor who sells oil directly to industrial users by contract and specifies in the contract the life cycle management of the oil; (« *vendeur industriel* »)

"lubricating oil" means a petroleum based oil that is being or is intended to be used primarily as a lubricant in combustion engines, turbines, transmissions, gearboxes, hydraulic equipment and other similar equipment; (« *huile lubrifiante* »)

"motor vehicle" means a motor vehicle as defined in the *Motor Vehicle Act*; (« *véhicule à moteur* »)

"oil" means, unless otherwise indicated, lubricating oil or non-halogenated metalworking fluid used in cutting, grinding, machining, rolling, stamping or coating and does not include crude or fuel oil spilled on land or in or on water, waste from refining operations or oil derived from animal or vegetable fat; (« *huile* »)

"receiver" means a person who is not operating a return facility, and who is required to hold and holds an approval under the *Water Quality Regulation* or the *Air Quality Regulation* because the person takes possession of used oil from generators or carriers, and includes an employee of such a person; (« *receveur* »)

"return facility" means a business enterprise that accepts used lubricating oil from persons who wish to return it; (« *installation de retour* »)

"used lubricating oil" means lubricating oil that has become unsuitable for its

original purpose because of the presence of impurities or the loss of its original properties; (« *huile lubrifiante usée* »)

"used oil" means oil that has become unsuitable for its original purpose because of the presence of impurities or the loss of its original properties; (« *huile usée* »)

"vendor" means a person who sells or offers to sell lubricating oil directly to consumers and includes a person who owns or operates a store, station, bulk oil plant, other fixed location, mobile outlet or other business enterprise that sells lubricating oil or offers it for sale; (« *vendeur* »)

"waste derived fuel" means used oil that, having been tested in accordance with paragraph 14(2)(a),

(a) has been determined to have a flashpoint of 61 degrees Celsius or higher,

(b) has been determined not to contain any substance in a concentration exceeding the maximum allowable concentration in Part I or II of Schedule A listed beside the substance in Column 2 of Part I or II of Schedule A, and

(c) is intended by a receiver to be used as a heating fuel; (« *carburant dérivé de déchets* »)

"Water Quality Regulation" means the *Water Quality Regulation - Clean Environment Act*. (« *Règlement sur la qualité de l'eau* »)

## Prohibitions

3 No person shall

- (a) contaminate used oil,
  
- (b) place used oil in a container in which it is available for pick up and delivery to a solid waste management facility, or otherwise dispose of it or cause it to be disposed of at a solid waste management facility, directly or indirectly,
  
- (c) deliver contaminated used oil to a return facility,
  
- (d) sell, exchange, offer for sale or exchange, transfer possession of or dispose of contaminated used oil unless doing so in accordance with the directions of the Minister,
  
- (e) release used oil or cause it to be released into a sewer or any fixture, catch basin, conduit, drain or other apparatus leading to a sewer, or
  
- (f) apply, place or otherwise release used oil onto or into public or private land for disposal, dust suppression or any other purpose.

### **Generators**

**4(1)** Subject to the other provisions of this Regulation, a generator may transfer possession of

- (a) used lubricating oil to a return facility that is in conformity with this Regulation, and
  
- (b) subject to paragraph (a), used oil, only to

(i) a carrier, or

(ii) a receiver who has made, and complies with the provisions of, a written contract made between the generator and the receiver in accordance with subsection (2).

4(2) A contract referred to in subparagraph (1)(b)(ii) shall include a provision in which the generator agrees not to transfer possession of more than 420 litres of used oil to the receiver, and the receiver agrees not to take possession of more than that amount from the receiver, in any 3 month period.

4(3) A generator who drains used oil from crankcases in the course of the generator's business may burn the used crankcase oil as fuel in a furnace owned by the generator, at a rate of less than 15 litres per hour per premises, if the furnace is in conformity with subsection (4).

4(4) A furnace used to burn used crankcase oil under subsection (3) shall be in conformity with CAN/CSA-B140.0-M87(R1991), *General Requirements for Oil Burning Equipment* and CAN/CSA-B140.4-1974(R1991), *Oil-Fired Warm Air Furnaces*.

4(5) Used oil that has been generated in the course of a generator's business may be burned by the generator as fuel, if

(a) the generator owns the boiler in which it is burned, and

(b) it is burned under the authority of, and in conformity with, an approval issued to the generator under the *Air Quality Regulation*.

**4(6)** A generator shall keep and maintain records showing

(a) on a quarterly basis, the quantity in litres of the used oil produced, and stored, on each premises owned or operated by the generator,

(b) the name and the street and mailing address of each carrier to whom the generator transferred possession of used oil, the date of the transfer and the quantity in litres of the used oil transferred,

(c) the name and the street and mailing address of each receiver to whom the generator transferred possession of used oil, the date of the transfer and the quantity in litres of the used oil transferred, and

(d) a copy of any contract made between the generator and a receiver.

**4(7)** Generators shall keep and maintain all records required under this section for a period of 2 years.

**4(8)** Generators shall forthwith produce all records required under this section for inspection by an inspector at the inspector's request.

**4(9)** Subsections (6) to (8) do not apply to generators who transfer possession of all of the used lubricating oil generated by them to a return facility as described in paragraph 6(1)(b).

## **Vendors**

**5(1)** Every vendor, other than an industrial vendor, shall

(a) operate a return facility on the business premises of the vendor in accordance with this Regulation, or

(b) subject to subsection (2), make and maintain an agreement with a person who operates a return facility within a radius of 10 kilometres of the business premises of the vendor in accordance with this Regulation.

**5(2)** If satisfied that, for geographical or other considerations, it is not practicable for a vendor to make an agreement with a person operating a return facility within the 10 kilometre radius referred to in paragraph (1)(b), the Minister may, in writing, permit the vendor to make an agreement with a person operating a return facility that is in conformity with this Regulation and is outside the 10 kilometre radius.

**5(3)** Every vendor, other than an industrial vendor, shall post, at the entrance to the business premises of the vendor or at the point of display or the point of sale of lubricating oil on the business premises, at least one decal provided by the Minister that has been accurately completed by the vendor, indicating

(a) any information required on the decal respecting

(i) the return facility on the business premises of the vendor, or

(ii) the name and location of the return facility in relation to which the vendor has made an agreement, and

(b) any other information required by the Minister.

**5(4)** Commencing on April 30, 2002, no producer, manufacturer, refiner,

wholesaler or distributor of lubricating oil shall transfer possession of any of the oil to a vendor without first determining that the vendor

(a) is operating a return facility on the business premises of the vendor in accordance with this Regulation, or

(b) has made and is maintaining an agreement in accordance with this section with a person who operates a return facility in accordance with this Regulation.

### **Return facilities**

**6(1)** The operator of a return facility

(a) subject to paragraph (b), shall make it available during normal business hours and without charge to any person who wishes to return used lubricating oil,

(b) shall accept used lubricating oil in quantities, per person per day, of a maximum of

(i) 25 litres, or

(ii) the number of litres contained by the largest size of container of lubricating oil sold on the business premises of the operator,

whichever is the greater,

(c) may burn used lubricating oil returned to the return facility as fuel in a furnace owned by the operator, at a rate of not more than 15 litres per day per premises, if the furnace is in conformity with subsection 4(4), and

(d) shall transfer possession of the used lubricating oil only to a carrier.

**6(2)** The operator of a return facility shall keep and maintain records showing

(a) the name and the street and mailing address of each person who returned used lubricating oil to the operator,

(b) the date of each return,

(c) the name and the street and mailing address of each carrier to whom the operator transfers used lubricating oil,

(d) the date of each transfer, and

(e) the quantity of used lubricating oil burned as fuel.

**6(3)** The operator of a return facility shall keep and maintain all records required under this section for a period of 2 years.

**6(4)** The operator of a return facility shall forthwith produce all records required under this section for inspection by an inspector at the inspector's request.

## Carrier Approval

7(1) In this section

"field operation" means an activity in which used oil is generated by a generator in the course of operating the generator's business enterprise at a temporary construction site, a place where the generator is carrying out the harvesting or renewal of timber resources on a temporary basis or at another similar location that is not the regular business premises of the generator. (« *exploitation sur le terrain* »)

7(2) Subject to subsection (3), no person shall operate a motor vehicle transporting used oil unless doing so under the authority of, and in compliance with any terms and conditions applying to, a Carrier Approval, authorizing the person or the business enterprise by which the person is employed to transport used oil by motor vehicle.

7(3) Subsection (2) does not apply to a person operating a motor vehicle transporting used oil, if

- (a) the person is transporting 25 litres or less of used lubricating oil,
- (b) the person is transporting used lubricating oil that was generated at the site of a generator's field operation, and is being transported from that site to a storage facility established by the generator,
- (c) the person is a generator or the employee or agent of a generator and is transporting used lubricating oil owned by the generator under and in conformity with a written contract referred to in subparagraph 4(1)(b)(ii),

(d) the person is transporting waste derived fuel in accordance with section 15, or

(e) the used oil is being transported through the Province from another jurisdiction to another jurisdiction and no used oil is being picked up or delivered by the motor vehicle in the Province.

7(4) A person may apply for a Carrier Approval by submitting an application to the Minister, on a form provided by the Minister, along with any other documentation or information the Minister may require.

7(5) After receiving an application for a Carrier Approval and such other documentation or information as the Minister may require under subsection (4), the Minister may, in the Minister's discretion,

(a) issue an approval to the carrier, subject to such terms and conditions as the Minister considers appropriate, or

(b) deliver to the applicant a written notice of refusal of the application, with reasons.

7(6) The Minister may establish terms and conditions to be met before a Carrier Approval is issued, or may impose terms and conditions on the approval to be met after the approval is issued.

7(7) The Minister may refuse to issue a Carrier Approval if.

(a) the applicant, an employee or agent of the applicant or the business enterprise of the applicant is not in compliance with a provision of the Act or the regulations,

(b) the applicant, an employee or agent of the applicant or the business enterprise of the applicant has failed to comply with a term or condition imposed on a Carrier Approval under the authority of which the applicant, employee, agent or business enterprise previously transported used oil,

(c) all facts material to the application for the approval have not been fully disclosed, or

(d) the facts, representations and other information contained in the application for the approval are not true or accurate.

#### **Period of validity of Carrier Approval**

**8(1)** A Carrier Approval shall be valid for the period of time, not to exceed 5 years, that is specified in the approval.

**8(2)** If no period of time is specified in a Carrier Approval in accordance with subsection (1), the approval shall be valid for 5 years.

#### **Implication of issuance of Carrier Approval**

**9** The issuance of a Carrier Approval does not relieve the owner, operator, employee or agent of the carrier from compliance with any of the provisions of the Act or the regulations.

#### **Renewal of Carrier Approval**

**10(1)** The holder of a Carrier Approval who wishes to renew it shall, no later than 90 days before it expires, apply to the Minister for a renewal.

**10(2)** Subsections 7(4) to (7) apply with the necessary modifications to an application for a renewal of a Carrier Approval and to the renewed approval.

### **Cancellation or suspension of Carrier Approval**

**11(1)** Without limiting section 12 of the Act, the Minister may suspend or cancel a Carrier Approval if

(a) the holder of the approval or any person acting under its authority has violated or failed to comply with, or if the business enterprise of the holder is not in compliance with,

(i) a provision of the Act or the regulations, or

(ii) a term or condition imposed on the approval, or

(b) a fee payable in relation to the approval under section 17 has not been paid on or before the deadline established in that section.

**11(2)** The Minister, if suspending or cancelling a Carrier Approval for any reason, shall deliver to the holder a written notice of the suspension or cancellation, with reasons.

**11(3)** If the Minister suspends a Carrier Approval because a fee payable under section 17 has not been paid, the suspension shall continue until the outstanding fee has been paid.

**11(4)** Subject to subsection (3), the Minister may reinstate a suspended

approval subject to such terms and conditions as the Minister considers appropriate.

### **Changes respecting Carrier Approval**

**12(1)** The holder of a Carrier Approval shall forthwith notify the Minister in writing of any change in the information originally set out in the application for the approval or set out on the approval, describing the change in the information, and applying for a reissued approval where there has been a change in the information set out on the approval.

**12(2)** The holder of a Carrier Approval who wishes to have a change made to any term or condition imposed on the approval shall apply in writing to the Minister for reissuance of the approval, describing the proposed change in the terms and conditions to be imposed on the reissued approval.

**12(3)** Subsections 7(4) to (7) apply with the necessary modifications to an application for a reissued Carrier Approval under this section, and to the reissued approval.

### **Appeal**

**13(1)** A person who was the holder of a Carrier Approval that has been cancelled or suspended may appeal the cancellation or suspension as provided for in the *Appeal Regulation - Clean Environment Act*, but the initiation of an appeal does not operate as a stay of the cancellation or suspension.

**13(2)** Subsection (1) shall not be construed, in any way, so as to abrogate from the requirement that the person comply with any order made under the Act or the regulations.

### **Operation of carriers**

**14(1)** A carrier who transfers possession of used oil within the Province

shall do so only to a receiver.

**14(2)** Every carrier, before transferring possession of used oil as waste derived fuel, shall

(a) ensure that the used oil has been or is tested by an analytical laboratory acceptable to the Minister in accordance with methods and standards established by the Minister, in order to determine whether or not

(i) the used oil has a flashpoint of less than 61 degrees Celsius, and

(ii) the used oil contains any substance listed in Column 1 of Part I or II of Schedule A, in a concentration exceeding the maximum allowable concentration listed beside the substance in Column 2 of Part I or II of Schedule A, and

(b) if the test results reveal that the used oil has a flashpoint of 61 degrees Celsius or higher and does not contain any substance in a concentration exceeding the maximum allowable concentration in Part I or II of Schedule A, as described in subparagraph (a)(ii), ensure that a copy of the test results is always carried in any motor vehicle in which the used oil is transported, in the possession of the operator of the motor vehicle.

**14(3)** If the test results referred to in paragraph (2)(a) reveal that the used oil has a flashpoint of less than 61 degrees Celsius or contains any substance in a concentration exceeding the maximum allowable concentration in Part I or II of Schedule A, as described in subparagraph (a)(ii), the carrier shall notify the Minister to that effect and follow the directions of the Minister.

### **Transportation of waste derived fuel**

**15(1)** No person shall operate a motor vehicle transporting waste derived fuel unless the person has possession in the motor vehicle of a copy of the test

results referred to in paragraph 14(2)(b) for the waste derived fuel.

**15(2)** The operator of a motor vehicle who is required to have possession of a copy of test results under subsection (1) shall, upon the demand of an inspector, forthwith produce and deliver the test results for inspection by an inspector at the inspector's request.

### **Receivers**

**16(1)** Subject to subsection (2), no person other than a receiver may take possession of used oil from a generator or a carrier.

**16(2)** Subsection (1) does not apply to persons operating or employed by

(a) a return facility, or

(b) a carrier.

**16(3)** A receiver

(a) may take possession of used oil only from

(i) a generator transferring possession of 25 litres or less of used lubricating oil per day,

(ii) a generator with whom the receiver has made a written contract referred to in subparagraph 4(1)(b)(ii), in accordance with that contract,

(iii) a carrier, or

(iv) a person transferring waste derived fuel in accordance with section 15,

(b) may alter the physical or the chemical characteristics of the used oil for sale and reuse,

(c) if the receiver does not alter the physical or the chemical characteristics of used oil, may sell or exchange it, offer it for sale or exchange or transfer possession or dispose of it only to a carrier, and

(d) if the receiver alters the physical or the chemical characteristics of used oil, may sell or exchange it, offer it for sale or exchange or transfer possession or dispose of it only

(i) to a carrier, or

(ii) as waste derived fuel, to a person who is the holder of an approval under the *Air Quality Regulation* permitting the holder to burn it as fuel.

## **Fees**

**17(1)** Subject to subsection (3), the holder of a Carrier Approval, whether the approval is issued or renewed and regardless of the date of issuance or renewal, shall, on or before the 1st day of April in each year, pay for the issuance or renewal of the approval or for the continued holding of the approval, as the case may be, a fee of

(a) for the period ending March 31, 2005, \$100, and

(b) on or after April 1, 2005, \$500.

**17(2)** Subject to subsection (3), if an approval is to be issued on a date other than the 1st day of April, the fee set out in subsection (1) shall be paid before the issuance, for the issuance, and shall not be prorated, regardless of the date of the issuance.

**17(3)** If a Carrier Approval is to be issued on a date other than the 1st day of April, for a carrier for which no Carrier Approval has previously been issued, the fee set out in subsection (1) shall be paid before the issuance, for the first issuance of the approval but shall be prorated based on the number of days between the date of issuance and the next following 31st day of March, inclusive.

**17(4)** There is no fee for the reissuance of a Carrier Approval under section 12.

2005-11

### **Transitional provision**

**18** A valid and subsisting approval issued before the commencement of this Regulation under the *Water Quality Regulation* to a person because the person is operating a business enterprise consisting of the collection or transportation of used oil, or both, shall, on the commencement of this Regulation, be deemed

(a) to be a valid and subsisting Carrier Approval issued under this Regulation, subject to such terms and conditions as the Minister may have imposed on the approval under the *Water Quality Regulation*, and

(b) to expire on November 30, 2002.

### Commencement

19 *This Regulation comes into force on April 30, 2002.*

### SCHEDULE A

#### MAXIMUM ALLOWABLE CONCENTRATIONS OF SUBSTANCES IN USED OIL

##### PART I

Column 1 Substance	Column 2 Maximum allowable concentration
arsenic	5 milligrams per kilogram
cadmium	2 milligrams per kilogram
chromium	10 milligrams per kilogram
lead	100 milligrams per kilogram
zinc	1500 milligrams per kilogram

##### PART II

Column 1 Substance	Column 2 Maximum allowable concentration
polychlorinated biphenyls (PCBs)	5 milligrams per kilogram

total organic halogens (as chlorine)	1000 milligrams per kilogram
--	---------------------------------

**N.B.** This Regulation is consolidated to March 24 2005.

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**Citation:** Used Oil Regulations, N.S. Reg. 51/95

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**Enabling Statute:** [Environment Act](#), S.N.S. 1994-95, c. 1

**Information about this text**

made under Section 84 of the Environment Act S.N.S. 1994-95, c. 1 O.I.C. 95-290 (April 11, 1995),  
N.S. Reg. 51/95 as amended by O.I.C. 96-927 (December 17, 1996), N.S. Reg. 179/96

# Used Oil Regulations

made under Section 84 of the  
*Environment Act*

S.N.S. 1994-95, c. 1

O.I.C. 95-290 (April 11, 1995), N.S. Reg. 51/95

as amended by O.I.C. 96-927 (December 17, 1996), N.S. Reg. 179/96

## Citation

1 These regulations may be cited as the "Used Oil Regulations".

## Definitions

2 In these regulations

(a) "Act" means the Environment Act;

(b) "Administrator" means a person appointed by the Minister, and includes an acting Administrator;

(c) "contaminated used oil" means used oil that

(i) has a flash point less than 38°C, or

(ii) contains any of the substances listed in Column I of Schedule "A" in a concentration in excess of the limit stated in Column II of Schedule "A";

(d) "crankcase oil" means internal combustion engine crankcase oil;

(e) "Department" means the Department of Environment and Labour;

- (f) "extension" means an increase in size, volume or production capacity of a facility such that the increase may cause an adverse effect if not properly mitigated;
- (g) "inspector" means an inspector appointed pursuant to Section 21 of the Act;
- (h) "Minister" means the Minister of Environment and Labour;
- (i) "modification" means an alteration to a facility whereby a new structure or equipment is added or an existing structure or equipment is eliminated and the alterations do not change the purpose or function of the facility;
- (j) "organic halogen compound" means an organic chemical compound in which one or more halogen elements are incorporated;
- (k) "point of display" means an area of a seller's premises where containers of crankcase oil are displayed;
- (l) "point of sale" means an area of a seller's premises where the transaction of purchasing crankcase oil takes place;
- (m) "polychlorinated biphenyls" or "PCBs" means chlorobiphenyls that have the molecular formula  $C_{12}H_{10-n}Cl_n$  in which "n" is greater than 2;
- (n) "seller" means a person who sells or offers for sale crankcase oil to the public as a wholesaler, distributor or retailer at a bulk oil plant, service station, marine supply store, drug store, store or other business where crankcase oil is sold or offered for sale to the public;
- (o) "used oil" means petroleum or synthetic lubrication oils, hydraulic fluids, metal working fluids and insulating fluids which have been used and are no longer suitable for their original purpose, but are suitable for other uses, including re-refining or other uses that are considered acceptable to the Minister;
- (p) "used oil collector" means a person who holds a valid Used Oil Collector's Approval;
- (q) "Used Oil Collector's Approval" means an approval issued pursuant to Section 6 of these regulations;
- (r) "used oil furnace" means a furnace specifically designed for the combustion of used oil;
- (s) "used oil return facility" means a place for the return of used crankcase oil in accordance with Section 12 of these regulations;
- Clause 2(s) amended: O.I.C. 96-927, N.S. Reg. 179/96.**

(t) "used oil storage facility" means a facility that is owned, occupied, operated, leased or used by a used oil collector and is approved by the Department for the storage of used oil and includes all storage tanks, loading and unloading areas, used oil transport vehicle parking areas and all used oil or waste processing and treatment equipment.

### **Administrator**

3 The Minister may appoint an Administrator to administer these regulations.

### **Designation**

4 For the purpose of the Act and these regulations, used oil is designated as dangerous goods.

### **Limitations on sale, transfer or use**

5 (1) Except as provided in Sections 12 and 13, no person shall sell, offer for sale, transfer, use or otherwise dispose of used oil to any person who is not a used oil collector or to any facility that is not a used oil return facility unless

(a) that person has a representative sample of the used oil analyzed at a laboratory for the contaminants listed in Column I of Schedule "A";

(b) that person obtains a certificate respecting the analysis from the laboratory; and

(c) the certificate confirms that the used oil is not contaminated used oil.

**Subsection 5(1) amended: O.I.C. 96-927, N.S. Reg. 179/96.**

(2) The certificate referred to in clause (1)(b) shall be kept by the person described in subsection (1) for a minimum period of 2 years from the date of the certificate.

(3) No person shall fail to produce or provide a copy of a certificate referred to in clause (1)(b) when requested by an inspector or an Administrator.

(4) A person described ~~to~~ in subsection (1) shall maintain a record of

(a) the volume of any used oil sold, transferred, used or disposed of;

(b) the date of sale, transfer or disposition;

(c) the person to whom the used oil was sold, transferred or disposed; and

(d) shall keep records referred to in clauses (a), (b) and (c) for a minimum period

of 2 years from the date of the sale, transfer or disposition.

(5) For the purpose of these regulations, when mixtures of used oil containing immiscible substances are subject to an analysis referred to in subsection (1), the analysis shall be conducted on the used oil fraction.

### **Approvals**

**6 (1)** No person shall

(b) carry on the business of used oil collection;

(c) hold themselves out as a used oil collector; or

(d) provide the services of a used oil collector,

**Clause 6(1)(a) repealed: O.I.C. 96-927, N.S. Reg. 179/96.**

unless that person is issued an approval under these regulations.

(2) Subject to the Approvals Procedure Regulations, an Administrator may issue a Used Oil Collector's Approval to a person who applies to the Department.

(3) A Used Oil Collector's Approval entitles the holder to acquire or otherwise collect used oil and contaminated used oil whether or not it has been analyzed.

(4) Despite subsection (1), during an unauthorized release, an impending unauthorized release or an environmental emergency involving used oil, an inspector or an Administrator may authorize any person to collect, transport or store used oil for a period not to exceed 30 days.

(5) Prior to January 31 of each year, a used oil collector shall

(a) provide a written report to an Administrator which documents the quantity and distribution of used oil collected during the previous calendar year; and

(b) provide an estimate of the quantity of used oil in storage at the used oil storage facility on the last day of the previous calendar year.

### **Used oil storage facility**

**7 (1)** Approval to operate a used oil storage facility shall not be issued until the used oil storage facility has been inspected and approved in writing by an inspector or an Administrator.

(2) No extension or modification shall be made to a used oil storage facility unless an amendment is obtained to the existing approval.

**Approval renewal**

**8 (1)** Unless otherwise agreed in writing by an Administrator, an approval or a renewal thereof shall expire on December 31 of the year of issuance.

**(2)** An Administrator may renew an approval issued under these regulations provided a used oil collector has complied with the Act, the regulations and the terms and conditions contained in the approval.

**Contaminated used oil**

**9 (1)** No person shall sell, offer for sale, transfer, use or otherwise dispose of contaminated used oil to a person other than a used oil collector.

**(2)** Except as provided in the Act, the regulations, a directive of the Department or the written approval of an Administrator, no person, including a used oil collector, shall use or dispose of contaminated used oil.

**(3)** No person, including a used oil collector, shall possess contaminated used oil unless within 7 days of receipt of the certification of laboratory analysis that the oil is contaminated, that person completes a form prescribed by the Administrator and forwards it to an Administrator.

**Dilution of contaminated used oil**

**10** Without the prior written approval of an Administrator no person shall dilute contaminated used oil that contains PCBs or organic halogen compounds in excess of the maximum allowable concentrations prescribed in Column II of Schedule "A".

**Prohibition against adding substances**

**11** Without the prior written approval of an Administrator, no person shall

**(a)** add any substance to used oil or contaminated used oil for the purpose of disposal of that substance; or

**(b)** suggest, encourage or advise other persons to add any substance to used oil or contaminated used oil for the purpose of disposal of that substance.

**Used oil return facility**

**12 (1)** On and after April 1, 1996, every seller of crankcase oil shall

**(a)** provide a used oil return facility at the seller's premises; or

(b) contract with a person who operates a used oil return facility who agrees to accept used crankcase oil from the seller's customers.

(2) A used oil return facility described in clause (1)(b) shall be located within a 5 km radius of the premises of the seller.

(3) Notwithstanding subsection (2), an Administrator may waive in writing the 5 km radius requirement provided geographic or other circumstances warrant such action.

(4) A used oil return facility on the premises of the seller or on the premises contracted by the seller shall

(a) accept used crankcase oil from any person who wishes to return used crankcase oil;

(b) accept from any person on a daily basis used crankcase oil in a quantity of up to 10 or a quantity equivalent to the largest container of crankcase oil sold by the seller, whichever quantity is greater;

(c) operate during the normal business hours of the premises where the used oil return facility is located; and

(d) comply with all applicable regulations that apply to used oil return facilities, including the National Fire Code of Canada.

(5) Every seller shall post at the entrance to the seller's premises, at the point of display or at the point of sale at least one sign that contains sufficient information to enable the customer to know the location of the used oil return facility that is available for the use of the customer.

(6) On and after April 1, 1996, no wholesaler or distributor of crankcase oil shall provide crankcase oil to a seller without first having determined that the seller has a used oil return facility or has contracted with a third party to provide a used oil return facility.

**Subsection 12(6) amended: O.I.C. 96-927, N.S. Reg. 179/96.**

### **Used oil as a fuel source**

**13 (1)** Except as authorized by these regulations, no person shall burn used oil.

(2) Subject to subsection (3), used oil may be burned provided

(a) the used oil is not contaminated used oil and this is verified by a certificate respecting the analysis from a laboratory;

(b) an Administrator has been notified at least 30 days prior to the commencement of the burning;

(c) prior written approval is given by the Administrator; and

(d) prior to January 31st of each year, a person who burns used oil shall complete and submit a written report to the Administrator which includes information respecting the volume of used oil burned during the previous calendar year.

**Subsection 13(2) replaced: O.I.C. 96-927, N.S. Reg. 179/96.**

(3) Subsection (2) does not apply to a person who burns used crankcase oil in a used oil furnace provided

(a) the person registers with an Administrator; and

(b) the used crankcase oil

(i) is used crankcase oil produced as the result of vehicle oil changes, and

(ii) does not originate from a used oil storage facility or a used oil return facility.

**Subsection 13(3) replaced: O.I.C. 96-927, N.S. Reg. 179/96.**

**Subsection 13(4) repealed: O.I.C. 96-927, N.S. Reg. 179/96.**

#### **Land application of used oil/contaminated used oil**

**14** No person shall apply used oil or contaminated used oil to a public or private highway, road, lane, trail, bridge, parking area or any land for any purpose including dust suppression.

#### **Effective date**

**15** These regulations shall come into effect on, from and after April 11, 1995.

#### **Schedule "A" - Contaminated Used Oil Limits**

<b>Column I Substance</b>	<b>Column II Maximum Allowable Concentration</b>
1. polychlorinated biphenyls	5 mg per kg
2. total organic halogens as chlorine	1000 mg per kg
3. cadmium	2 mg per kg
4. chromium	10 mg per kg

5. lead

100 mg per kg

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by  for the Federation of Law Societies of Canada 



[Prince Edward Island](#) >> [Statutes and Regulations](#) >> [P.E.I. Reg. EC425/92](#) >> [Complete text](#)

**Citation:** Used Oil Handling Regulations, P.E.I. Reg. EC425/92

**Version available as of 2006-06-14** (Last update on CanLII: 2006-06-14)

**URL:** <http://www.canlii.org/pe/laws/regu/1992r.425/20060614/whole.html>

**Enabling Statute:** [Environmental Protection Act](#), R.S.P.E.I. 1988, c. E-9

PLEASE NOTE

This document, prepared by the Legislative Counsel Office, is an office consolidation of this regulation, current to February 1, 2004. It is intended for information and reference purposes only.

This document is not the official version of these regulations. The regulations and the amendments printed in the Royal Gazette should be consulted to determine the authoritative text of these regulations.

For more information concerning the history of these regulations, please see the Table of Regulations.

If you find any errors or omissions in this consolidation, please notify the Legislative Counsel Office at (902) 368-4291 or by email to [pmporter@gov.pe.ca](mailto:pmporter@gov.pe.ca).

## CHAPTER E-9

## ENVIRONMENTAL PROTECTION ACT

## USED OIL HANDLING REGULATIONS

Pursuant to section 25 of the Environmental Protection Act R.S.P.E.I. 1988, Cap. E-9, Council made the following regulations:

## 1. In these regulations

## Definitions

- |   |                               |  |
|---|-------------------------------|--|
| <p>(a) "contaminated used oil" means used lubricating oil that has flash-point less than 38 degrees Centigrade or that contains any of the substances listed in column I of Schedule A in concentrations in excess of those listed opposite the substance in column II of Schedule A;</p> | <p>a<br/>of<br/>in<br/>of</p> | <p>contaminated used oil</p>             |
| <p>(b) "industrial seller" means a person who sells lubricating oil directly to industrial customers by contract;</p>   |                               | <p>industrial seller</p>                 |
| <p>(c) "lubricating oil" means engine oil, transmission fluid and gear oil, but does not include oils derived from animal or vegetable fats;</p>  |                               | <p>lubricating oil</p>                   |
| <p>(d) "organic halogen compound" means an organic chemical compound into which one or more of the halogen elements are incorporated;</p>   |                               | <p>organic halogen compound</p>          |
| <p>(e) "point of display" means an area of a seller's premises where containers of lubricating oil are displayed;</p>   |                               | <p>point of display</p>                  |
| <p>(f) "point of sale" means an area of a seller's premises where the transaction to purchase lubricating oil takes place;</p>  |                               | <p>point of sale</p>                     |
| <p>(g) "Polychlorinated Biphenyls" or "PCBs" means chlorobiphenyls that have a molecular formula C<sub>12</sub>H<sub>10-n</sub>Cl<sub>n</sub> in which "n" is greater than 2;</p>   |                               | <p>Polychlorinated Biphenyls or PCBs</p> |
| <p>(h) "return facility" means a place for the return and short term storage of used oil;</p>   |                               | <p>return facility</p>                   |
| <p>(i) "seller" means a person who stores lubricating oil at a fixed location for sale direct to the users;</p>   |                               | <p>seller</p>                            |
| <p>(j) "used oil" means lubricating oil which through use, storage or handling has become unsuitable for its original purpose but is suitable for re-refining or other permitted uses;</p>  |                               | <p>used oil</p>                          |

2	Cap. E-9	Environmental Protection Act Used Oil Handling Regulations	Updated 200
used oil collector		(k) "used oil collector" means a person engaged in the business of collecting, transporting, storing, selling and handling used oil. (EC425/92)	
Regulated activities		2. No person shall (a) contaminate used oil with any substance that has a flash-point less than 38 degrees Centigrade or a substance listed in column I of Schedule A; (b) dispose of used oil at a solid waste management facility; (c) place used oil in a container intended for pick up to go to a solid waste management facility; (d) dispose of contaminated used oil at a return facility; (e) offer for sale, sell, transfer possession or dispose of contaminated used oil without the approval by the Department; (f) in any manner, dispose of used oil to any sanitary or storm sewer or to any fixture, catch basin or drain leading to a sanitary or storm sewer; or (g) apply or otherwise dispose of used oil on public or private land for any purpose, including dust suppression. (EC425/92)	
Used oil analysis		3. (1) No person shall transport used oil into or out of the province, without first (a) requesting and obtaining the results of laboratory analysis of a sample or samples from each used oil storage container in the form set out in Schedule B; (b) providing a copy of a completed Schedule B form to the Department; and (c) receiving written permission from the Department. (2) Samples of used oil collected for laboratory analysis must be	
Samples		representative of the full depth of the storage container from which the sample is taken.	
Results		(3) The laboratory analysis results referred to in subsection (1) shall be kept by the person referred to in subsection (1) for a period of not less than three years from the date of analysis.	
Notice		(4) Every person in possession of contaminated oil shall (a) within seven days of the receipt of the laboratory analysis, provide the Department with notice, in the form set out in Schedule C; and (b) provide such other information as may be required by the Department.	
Disposal		(5) Contaminated used oil must be disposed of in a manner that has been approved by the Department. (EC425/92)	

Updated 2002

Environmental Protection Act  
Used Oil Handling Regulations

Cap. E-9

- 4. (1) All used oil collectors must obtain a license from the Department. Licenses
- (2) An application for a license shall contain Application,  
contents
  - (a) a detailed written proposal outlining
    - (i) the location of the business,
    - (ii) the plans and specifications of the storage, and transfer facilities and equipment,
    - (iii) the training of employees,
    - (iv) a contingency plan for the prevention, detection and handling of leaks and spills and a description of the methods used to fill and empty each storage tank,
    - (v) such other information as may be required by the Department;
  - (b) a certificate of insurance which
    - (i) evidences insurance coverage for the used oil collector's liability for bodily injury and property damage arising out of a contaminant being introduced into the environment in a sudden, unintended or unexpected occurrence, during the period of insurance, with not less than \$1,000,000 coverage per occurrence, and
    - (ii) states that the insurance coverage may not be cancelled except upon thirty days prior written notice to the Department, and be accompanied by an application fee of \$100.
- (3) Upon review of an application, the Department may request additional information. Grant of license
- (4) The Department may attach such terms and conditions to a license as it considers necessary. Conditions
- (5) The Department may revoke a license at any time upon finding that the license holder is in violation of the Act or these regulations. Revocation
- (6) The Department may revoke a license at any time upon finding that the license holder is in violation of the Act or these regulations. Violation
- (7) Failure to comply with a term or condition of a license is an offence. Offence
- (8) Every used oil collector shall keep and maintain a record of the volume of the used oil transferred, the date of the transfer, and the person from whom and to whom the used oil was transferred for a period of three years from the date of the transfer. (EC425/92) Records
- 5. Within twelve months of the coming into force of these regulations, all sellers except industrial sellers shall Requirements for  
return facilities
  - (a) provide a return facility at the seller's premises; or

4	Cap. E-9	Environmental Protection Act Used Oil Handling Regulations	Updated 20
Waiver		<p>(b) contract with a person who operates a return facility that is located within a five kilometer radius of the seller's premises, to accept used oil from the seller's customers. (EC425/92)</p> <p>6. Notwithstanding clause 5(b), where geographical or other considerations do not allow a seller to contract with a person within a 5 kilometer radius, the Department may, in writing, waive the five kilometer requirement to permit a seller to contract with a person who operates a return facility which is located outside a five kilometer radius of the seller's premises. (EC425/92)</p>	
Obligations of operation of return facility		<p>7. A person operating a return facility shall</p> <p>(a) make it available to any person who wishes to return used oil and do so without charge;</p> <p>(b) accept used oil in quantities of up to ten litres per person per day or a larger quantity per day that is equivalent to the maximum size of container of lubricating oil sold on the premises;</p> <p>(c) operate during the normal business hours of the premises where the return facility is located;</p> <p>(d) store used oil in compliance with the Petroleum Storage Tanks Regulations (EC187/90) and the National Fire Code of Canada;</p> <p>(e) keep and maintain a record of the volume of used oil transferred to any person, the date of the transfer, and the person to whom the used oil was transferred for a period of three years from the date of the transfer. (EC425/92)</p>	
Signs on sellers premises		<p>8. (1) Every seller shall, at the entrance to the seller's premises, the point of display or the point of sale, post a sign which</p> <p>(a) clearly displays the used oil return facility logo as shown in Schedule D; and</p> <p>(b) states that</p> <p style="padding-left: 20px;">(i) a return facility is located on the seller's premises, or</p> <p style="padding-left: 20px;">(ii) the name and location of the facility which has been contracted to accept the seller's used oil.</p> <p>(2) Every seller shall provide an area, either at the point of display or</p>	
Educational materials		<p>point of sale, for the display of educational materials in the form of pamphlets and other appropriate materials made available from time to time by the petroleum industry and the Department. (EC425/92)</p>	
Information		<p>9. (1) Every used oil collector and return facility shall furnish such information and carry out such tests and examinations as the Department may require.</p>	
Samples		<p>(2) The Department may collect samples of used oil for laboratory analysis from any person in possession of used oil.</p>	

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Used Oil Handling Regulations

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(3) In a prosecution, proceeding or hearing under the Act or these regulations, the production of a certificate or report by the Minister as to the analysis, description, ingredients, quality, or quantity of used oil is evidence of the facts stated therein. (EC425/92)

Certificate etc. as  
evidence

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SCHEDULE A  
CONTAMINATED USED OIL

Column I Substance	Column II Concentration
polychlorinated biphenyls	5 mg/l
total organic halogens as chlorine	1000 mg/l
arsenic	5 mg/l
cadmium	2 mg/l
chromium	10 mg/l
lead	100 mg/l
(EC425/92)	

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Environmental Protection Act  
Used Oil Handling Regulations

SCHEDULE B  
Used Oil - Certificate of Analysis

A. OWNER IDENTIFICATION

- 1. Owner (Name)..... Phone
- 2. Address.....
- 3. Location of Waste Oil (if different from owner's address) .....
- 4. Volume of batch certified herein: .....

I, the undersigned declare that the information given above is true and complete respecting the identification of the source of this sample and request that a copy of the Certificate of Analysis be sent directly to the Department of Fisheries, Aquaculture and Environment, Air Quality and Hazardous Materials Section, P.O. Box 2000, Charlottetown, P.E.I., C1A 7N8

Date .....  
Signature

B. RECORD OF ANALYSIS OF SAMPLE

- 1. Polychlorinated Biphenyls (mg/L).....
- 2. Total Organic Halogens as Chlorine (mg/L) .....
- 3. Arsenic (mg/L) .....
- 4. Cadmium (mg/L) .....
- 5. Chromium (mg/L) .....
- 6. Lead (mg/L) .....
- 7. Flash Point (degree C closed cup) .....

C. LABORATORY IDENTIFICATION

- 1. Name of Laboratory .....
- 2. Address.....

I, the undersigned hereby certify that the above sample is not contaminated waste oil, and that the analytical information given is a true and complete record respecting a sample provided to me by the above-identified owner or his authorized representative.

Date .....  
Signature of chemist or authorized Laboratory rep

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SCHEDULE C

COMPLETE ONE FORM FOR EACH TANK CONTAINING CONTAMINATED USED OIL.

A. OWNER OF TANK

- 1. Owner (Name) .....
- 2. Address .....
- 3. Community .....
- 4. Province .....
- 5. Postal Code .....
- 6. Phone Number .....

B. LOCATION OF TANK

- 1. Same as Section A Yes [ ] No [ ]
- 2. Address .....
- 3. Community .....
- 4. Province .....
- 5. Postal Code .....
- 6. Phone Number .....

C. TYPE OF OIL STORED

D. TYPE OF INSTALLATION Above ground [ ] Under ground [ ]

- 1. Is the tank locked or otherwise secured? Yes [ ] No [ ]
- 2. Is the tank dyked (above ground only)? Yes [ ] No [ ]
- 3. Capacity of tank is .....litres.
- 4. Petroleum Storage Tanks Regulations registration number

E. REASON FOR STORAGE

- 1. [ ] Re-sale
- 2. [ ] Treatment
- 3. [ ] Fuel Source
- 4. [ ] Other

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Used Oil Handling Regulations

SCHEDULE D  
Used Oil Return Facility Logo

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by  \_\_\_\_\_ for the Federation of Law Societies of Canada 



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**Enabling Statute:** [Environmental Protection Act](#), S.N.L. 2002, c. E-14.2

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Regulations consolidated to Jun. 23, 2006



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**NEWFOUNDLAND AND LABRADOR  
REGULATION 82/02**

*Used Oil Control Regulations*  
under the  
*Environmental Protection Act*  
(O.C. 2002-430)

*(Filed November 18, 2002)*

Under the authority of section 111 of the *Environmental Protection Act*, the Lieutenant Governor in Council makes the following regulations.

Dated at St. John's, November 12, 2002.

Deborah E  
Clerk of the Executive Council

**REGULATIONS**

*Analysis*

1. ... Short title



- (b) "Act" means the *Environmental Protection Act* ;
- (c) "class 1" means used oil in which the concentration of each contaminant listed in column 1 of the Schedule is equal to or below the corresponding level in column 2 of the Schedule;
- (d) "class 2" means used oil in which the concentration of each contaminant listed in column 1 of the Schedule is equal to or below the corresponding level in column 2 of the Schedule with the exception of lead which is above the corresponding level in column 2 of the Schedule but below or equal to the corresponding level in column 3 of the Schedule;
- (e) "class 3" means used oil in which the concentration of each contaminant listed in column 1 of the Schedule is equal to or below the corresponding level in column 2 of the Schedule, with the exception of polychlorinated biphenyls (PCBs) and total organic halogens (TOHs) with the concentration of PCBs or TOHs being above the corresponding level in column 2 of the Schedule and equal to or below the corresponding level in column 3 of the Schedule;
- (f) "class 4" means used oil in which the concentration of at least one of the contaminants listed in column 1 of the Schedule is above the corresponding level in column 3 of the Schedule;
- (g) "contaminated used oil" means used oil which contains one or more contaminants, excluding those contaminants listed in column 1 of the Schedule, including paint, paint thinner, chemical solvent or gasoline;
- (h) "department" means the department presided over by the minister;
- (i) "generator" means a person who generates used oil either directly in his or her business or indirectly as a vendor and includes a used oil collector;
- (j) "grease" means a semisolid lubricant composed of a fluid hydrocarbon based lubricant thickened with a material that contributes a degree of plasticity;
- (k) "high efficiency" means having a retention time of at least 2 seconds at a temperature of at least 1250 ° Celsius;
- (l) "industrial user" means a person who purchases lubricating oil from an industrial vendor;
- (m) "industrial vendor" means a vendor who sells lubricating oil directly to industrial users by a contract that includes provisions respecting the life cycle management of the lubricating oil;
- (n) "leak" means a discharge of used oil from a storage tank system, pipeline, tank vessel, tank car or tank vehicle other than through the usual function for which the storage tank system, pipeline, tank vessel, tank car or tank vehicle was designed;
- (o) "life cycle management" means a process that ensures the appropriate environmental management of used lubricating oil, including the return of used lubricating oil from all contracted industrial users to the industrial vendor for recycling, treatment, reuse or disposal;
- (p) "lubricating oil" means crankcase oil, gear oil and transmission fluid;
- (q) "minister" means the minister appointed under the *Executive Council Act* to administer the *Environmental Protection Act* ;
- (r) "oil" means a hydrocarbon mixture that is refined from crude or synthetic oil, and includes naphtha, middle distillates, fuel oil, base stocks, mineral spirits, hydraulic fluids, metal working fluids, insulating fluids or coolants, treated oil and hydrocarbon solvents, but does not include

gasoline, grease, chemical solvents, ethylene glycol or oil derived from animal or vegetable fats;

- (s) "organic halogen" means an organic chemical into which one or more of the halogen elements are incorporated;
- (t) "person" includes a group of persons whether or not they are incorporated;
- (u) "polychlorinated biphenyls" or "PCBs" means chlorobiphenyls that have a molecular formula  $C_{12}H_{10-n}Cl_n$  in which "n" is greater than 2;
- (v) "remote" means, with reference to a community, not connected to the provincial road network and not connected, even seasonally, by a scheduled ferry capable of carrying a tank truck with a capacity of 9,000 litres;
- (w) "residence" means a house, mobile home, apartment, cottage, cabin or other dwelling and ancillary buildings including sheds, garages, and other attached or detached buildings, whether temporary or permanent;
- (x) "return facility" means a facility set up, in accordance with section 11, for the purpose of collecting used lubricating oil returned by the general public;
- (y) "secondary containment" means containment that prevents leaks from the primary storage tank system from reaching outside the containment area and includes double-wall storage tanks and piping, and impermeable barriers;
- (z) "spill" means a loss of used oil or used grease in excess of 70 litres from a storage tank system, pipeline, tank vessel or vehicle onto or into the soil or water and "spillage" has a corresponding meaning;
- (aa) "storage facility" means a facility set up for the purpose of collecting and storing used oil and includes all associated storage tank systems, loading and unloading areas and used oil transport vehicle parking areas;
- (bb) "storage tank" means a closed container with a capacity greater than 205 litres, used or intended for use for the containment of petroleum products, that is located in a stationary location, including a temporary arrangement on cradles, skids or wheels;
- (cc) "total petroleum hydrocarbons" means the sum of total purgeable and total extractable hydrocarbons;
- (dd) "used grease" means grease that as a result of spillage or contamination by any means or by its use, is altered so that it is no longer suitable for its intended purpose;
- (ee) "used lubricating oil" means lubricating oil that as a result of its use, storage or handling, is altered so that it is no longer suitable for its intended purpose but is suitable for re-refining or other permitted uses;
- (ff) "used lubricating oil recycling logo" means a logo that is designated by the minister;
- (gg) "used oil" means a used lubricating oil or waste oil;
- (hh) "used oil collector" means a person holding a valid certificate of approval, issued by the minister, to engage in the business of collecting, transporting, storing, selling and handling used oil and includes an agent of a used oil collector;

(ii) "vendor" means a person who stores lubricating oil for sale direct to customers, and includes a bulk oil plant, service station, marine station, department store, grocery store, auto supply store, drug store, or other fixed location, and a truck, van or other mobile unit, or business that sells, or offers for sale, lubricating oil; and

(jj) "waste oil" means an oil that as a result of contamination by any means or by its use, is altered so that it is no longer suitable for its intended purpose.

(2) For the purpose of these regulations, used oil, used oil filters and used grease shall be considered to be waste material.

(3) Where these regulations provide a discretion to the minister, a person may apply to the minister in writing, to request the minister to exercise his or her discretion.

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### **Designate**

3. The minister may designate an employee of the government to act in his or her behalf for the purpose of these regulations.

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### **Used grease**

4. (1) A person generating used grease shall ensure that

- (a) used grease is collected and stored in suitable lidded containers including barrels, drums or pails;
- (b) containers used to collect and store used grease have their lids in place or are otherwise kept covered at all times except when used grease is being placed into or being removed from the containers;
- (c) containers used to collect and store used grease are stored in a manner that ensures that the used grease stored in the container does not come into contact with precipitation; and
- (d) used grease is disposed of in accordance with the requirements of subsection 22 (6).

(2) Notwithstanding subsection (1), a person may use other measures, acceptable to the minister, to prevent the release of used grease into the environment.

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### **Disposal of used oil or used grease**

5. (1) In this section, "used oil" includes any mixture of used oil and another liquid where the concentration of total petroleum hydrocarbons exceeds 15 parts per million.

(2) A person shall not

- (a) deposit, empty, pour, pump, dump, discard or otherwise dispose of used oil or used grease, either directly or indirectly, into a body of water or a sanitary or storm sewer, or to a fixture,

- catch basin, or drain, leading to a sanitary or storm sewer, or into a body of water unless the fixture, catch basin or drain has incorporated into its design a method or means to retain and remove the used oil or used grease in a manner acceptable to the minister;
- (b) apply, abandon, deposit, empty, pour, pump, dump, discard or otherwise dispose of used oil or used grease on public or private land, including a highway, road, lane, trail, bridge, parking area or quarry, for any purpose, including dust suppression;
  - (c) abandon, deposit, empty, pour, pump, dump, discard or otherwise dispose of used oil or used grease in a waste disposal site;
  - (d) place used oil or used grease in a container, or with other waste material, intended for pick up for transportation to, a waste disposal site;
  - (e) apply or use used oil or used grease as a base for a preparation to be applied to the underside of vehicles as a rust inhibitor;
  - (f) use used grease in an explosive formulation to facilitate the legitimate use of explosives;
  - (g) use used oil in an explosive formulation to facilitate the legitimate use of explosives unless the facility, company or person has a certificate of approval to use used oil for this purpose issued under the Act; and
  - (h) sell or give for use, or use used oil as a lubricant or coating for a chainsaw or other mechanical device unless
    - (i) the used oil is a class 1 used oil,
    - (ii) the used oil has a flash point greater than 38 ° Celsius, and
    - (iii) the used oil is obtained from a facility which has a certificate of approval issued under the Act.

(3) The minister may waive the requirements of paragraphs (2)(c) and (d) with respect to a remote community where in his or her opinion no other viable means exists to properly treat or dispose of used oil.

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### **Combustion of used oil or used grease**

6. (1) A person shall not

- (a) abandon, deposit, empty, pour, pump, dump, discard or otherwise dispose of used oil or used grease, or place used oil or used grease in a container, in or with other waste material intended for pick up for transportation to an incinerator other than one referred to in subsection (2);
- (b) use used oil or used grease as a fuel or otherwise combust used oil or used grease in a furnace, boiler, burner or other combustor located in, attached to or associated with a residence for the purpose of heating a residence, or for another purpose; or
- (c) ignite used oil or used grease to start a brush fire, bonfire, or incinerator or for fire fighting training or practice.

(2) A person shall not use used oil or used grease as a fuel or otherwise combust used oil or used grease in a furnace, boiler, burner or other combustor unless the furnace, boiler, burner or other combustor

complies with the *Air Pollution Control Regulations*.

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#### **Prohibition on contaminating used oil**

7. (1) Notwithstanding section 17 , a person shall not

- (a) contaminate used oil with, or add to used oil, paint, paint thinner, chemical solvent, gasoline or another substance except used oil; or
- (b) knowingly mix used oils of class 1, class 2, class 3, or class 4 with other used oil or hydrocarbon except
  - (i) in quantities less than 10 litres, including
    - (A) used lubricating oil returned by the public to a return facility, or
    - (B) used oil collected by industry in a manner similar to that referred to in clause (A),
  - (ii) in the collection of used oil by a licensed used oil collector using a bulking truck,
  - (iii) in the initial bulking in a fixed tank by the same used oil collector,
  - (iv) that used oil may be mixed with another volume of used oil in the same class,
  - (v) a person referred to in subsection 6 (2), or
  - (vi) by the owner of an industrial or processing works approved under the Act to facilitate the efficient delivery of the used oil feedstock to the works.

(2) The mixing of otherwise uncontaminated products resulting from the flushing of product lines from a tanker, tank vessel, tank car or tanks at a bulk plant or similar facility is not considered contamination as referred to in paragraph (1)(a).

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#### **Disposal of certain substances prohibited**

8. Except as provided for in clause 7 (1)(b)(i)(A), a person shall not dispose of used grease, waste oil, contaminated used oil, class 2, class 3 or class 4 used oil at a return facility.

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#### **Used oil filters**

9. (1) A person removing filters containing used oil from vehicles or equipment on a commercial or maintenance basis shall ensure that free flowing oil is drained from them and they are placed in an appropriate container.

(2) A used oil collector or an owner of a return facility shall ensure, with respect to oil filters referred to in subsection (1), that

- (a) the filters are crushed, punctured, perforated or otherwise have their structural integrity compromised so that all free flowing used oil is drained from the filters;
- (b) the used oil that drains from the filters is collected for placement into an approved storage facility; and
- (c) once drained, the filters are collected for recycling or disposal in a manner acceptable to the department including deposit in a waste material disposal site.

(3) Notwithstanding subsections (1) and (2), the minister may require other measures be taken to prevent the release of used oil, from filters, to the environment.

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### **Application**

**10.** Sections 11 to 15 and 17 to 24 do not apply to households, individual fishers, farmers or loggers consuming less than 400 litres of lubricating oil a year, but they shall return used lubricating oil to a return facility as required in section 11 .

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### **Return facilities for used lubricating oil**

**11.** (1) Beginning on April 1, 2003, every vendor, except an industrial vendor or one who sells less than 1,000 litres a year and does not, as part of his or her business, engage in activities that result in the accumulation of used oil at his or her premises, shall

- (a) provide a return facility at the vendor's premises; or
- (b) contract with a person who operates a return facility who agrees to accept used lubricating oil from the vendor's customers.

(2) A return facility described in paragraph (1)(b) shall be located within a 5 kilometer radius of the vendor's premises.

(3) Notwithstanding subsection (2), where geographical or other considerations do not allow a person to contract with a person within a 5 kilometer radius, the minister may, in writing waive the 5 kilometer requirement to permit a vendor to contract with a person who operates a return facility which is located outside a 5 kilometer radius of the vendor's premises.

(4) Beginning on April 1, 2003, a vendor, except an industrial vendor or one who sells less than 1,000 litres a year, shall

- (a) post, at the entrance to the vendor's premises, at the point of display or at the point of sale, at least one sign that
  - (i) clearly displays the used lubricating oil recycling logo,
  - (ii) contains information regarding the return facility on the vendor's premises and, if applicable, the name and location of an alternate return facility as described in paragraph (1) (b),
  - (iii) contains information regarding the days and hours during which used lubricating oil shall

be accepted at the return facility or the alternate return facility, if applicable, and

(iv) clearly indicates that contaminated oil shall not be accepted; and

(b) provide an area, either at the point of display or point of sale, for the display of educational materials in the form of pamphlets and other appropriate materials made available by the lubricating oil industry, the department or other authorized official.

(5) Each vendor, or designate in accordance with paragraph (1)(b) shall, at the return facility or, if addressed in a written agreement in accordance with subsection 13 (1)(b), at an alternate return facility, accept back used lubricating oil from a customer,

(a) in the event of the sale of a quantity of lubricating oil to the customer, an amount equal to at least the quantity purchased;

(b) provided that the used lubricating oil is in closed containers;

(c) provided that the used lubricating oil is considered acceptable subsequent to the visual inspection conducted in accordance with paragraph 12 (1)(a);

(d) only at the times posted under subparagraph (4)(a)(iii), those times to be, at a minimum, normal business hours; and

(e) without direct charge.

(6) A vendor shall not reduce, or offer to reduce, the cost of lubricating oil, or offer other goods or services on the condition that the consumer agree not to return a quantity or to return a reduced quantity of used lubricating oil.

(7) Not later than October 1, 2003, a wholesaler or distributor of lubricating oil shall not provide lubricating oil to a vendor without first having determined, where required, that the vendor has a return facility or has contracted with a third party to provide a return facility in accordance with these regulations.

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### **Used lubricating oil visual inspection**

**12. (1)** An owner of a return facility shall ensure that

(a) a person who accepts used lubricating oil at the return facility visually inspects the used lubricating oil for possible contamination, as described in paragraph 7 (1)(a), before accepting or rejecting it;

(b) each time used lubricating oil is rejected at the return facility, the person rejecting the used lubricating oil legibly records his or her name, the date, the name and address of the person who brought the used lubricating oil to the return facility, the estimated quantity of used lubricating oil refused and the reason for rejecting the used lubricating oil; and

(c) each record made at the return facility is kept at the return facility for a period not less than 3 years after it is made.

(2) Used oil rejected under these regulations shall be considered hazardous waste and disposed of at a facility approved for that purpose.

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### **Storage facilities**

13. (1) Except for an industrial vendor, all other generators of used oil shall, beginning on April 1, 2003, have in place

- (a) a storage tank system in accordance with section 21 ; or
- (b) a written agreement, to accept used oil, with the owner of an approved storage facility for used oil.

(2) A generator having a written agreement in accordance with paragraph (1)(b) shall produce that agreement upon the request of an inspector.

(3) Except for industrial vendors, a generator shall, as it is received, place into an approved storage container for used oil, the volumes of used oil

- (a) generated directly in his or her business; or
- (b) returned to the vendor, in accordance with subsection 11 (4), at the vendor's premises.

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### **Industrial vendors**

14. (1) An industrial vendor shall submit the specified life cycle management portion of his or her contract to the minister for approval under subsection (2).

(2) An industrial vendor who engages in activities associated with the collection, transportation and storage of used lubricating oil, including the construction, installation or operation of used lubricating oil storage tanks or other associated equipment, under the terms of each, and the life cycle management portion of a contract with an industrial user shall obtain an approval for those activities, equipment or facilities under section 18 .

(3) An industrial vendor shall not reduce, or offer to reduce the cost of lubricating oil, or offer other goods or services on the condition that the industrial user agrees not to return a quantity or a reduced quantity of used lubricating oil, or on the condition that the industrial user disposes of his or her used lubricating oil to a used oil collector.

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### **Storage facility owner responsibilities**

15. An owner of a storage facility shall ensure that

- (a) by means of gates, fencing, locks, guards or otherwise, only people authorized by the owner have access to used oil at the storage facility;
- (b) a person who accepts, handles, stores or deposits used oil at the storage facility is knowledgeable about relevant legislation, regulations and departmental policy;
- (c) a person who accepts, handles, stores or deposits used oil at the storage facility is

- (i) an owner of the storage facility or a person who has the charge, management or control of the storage facility, or
  - (ii) an employee of one of the persons referred to in subparagraph (i);
- (d) used oil is stored in approved storage tanks and
  - (i) a storage tank used to store used oil bears a visible and legible label or other identification that indicates the name and address of the storage facility and that it contains used oil,
  - (ii) in the case of an underground storage tank, the label or other identification is located on the fill pipe for the storage tank and need not include the name and address of the storage facility,
  - (iii) a storage tank used to store used oil is stored, handled and maintained so as to prevent leaks or spills of used oil, damage or deterioration of the storage tank, or any adverse effect, and
  - (iv) a storage tank used to store used oil is installed in a manner that facilitates both the use of fire fighting equipment and spill or leak containment and clean-up equipment throughout the storage facility and surrounding area and the inspection of the storage facility by an inspector;
- (e) the storage facility is visually inspected for leaks and spills of used oil by a person who is knowledgeable about the requirements pertaining to used oil storage facilities, at least once during each day in which the storage facility is open;
- (f) at the time of an inspection referred to in paragraph (e) the person performing the inspection legibly records his or her name, the date and the findings of the inspection and that inspection record is kept at the storage facility for a period not less than 3 years after it is made;
- (g) used oil is not accepted at the storage facility unless
  - (i) the storage facility is located at a facility at which the used oil is to be combusted, disposed or otherwise processed, or
  - (ii) provisions for the ongoing removal of all used oil at the storage facility have been made including
    - (A) one or more existing agreements, in writing, and each agreement shall be between the owner of the storage facility and a person to whom a certificate of approval has been issued under the *Environmental Protection Act* or subsection 18 (1) of these regulations authorizing the person to transport one or more classes of used oil that includes the class or classes of used oil to be removed from the storage facility by the person under the agreement,
    - (B) the owner of the storage facility having been issued a certificate of approval under either the *Environmental Protection Act* or subsection 18 (1) of these regulations authorizing the owner or an employee of the owner to transport one or more classes of used oil that are to be removed from the storage facility, or
    - (C) a combination of clauses (A) and (B);
- (h) used oil is removed from the storage facility only
  - (i) by the owner, an employee of the owner or a person with whom a written agreement, in

accordance with paragraph 13 (1)(b) exists, and

- (ii) by a person to whom a certificate of approval has been issued under either the *Environmental Protection Act* or subsection 18 (1) of these regulations authorizing the transport of one or more classes of used oil; and
- (i) a copy of a written agreement, in accordance with paragraph 13 (1)(b), is kept at the storage facility during the term of the agreement and for a period of 3 years after the termination or expiration of the agreement.

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### **Application**

16. Sections 17 to 24 do not apply to a retailer who sells less than 1,000 litres, or another quantity the minister considers appropriate in the circumstances, of lubricating oil a year and does not, as part of his or her business, engage in activities that result in the accumulation of used oil at his or her premises.

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### **Storage of used oil by classification**

17. A user of used oil and a used oil collector that stores used oil subsequent to its collection shall ensure that

- (a) class 1, class 2, class 3 and class 4 used oil is stored separately in approved storage tanks; and
- (b) a storage tank used to store used oil bears a label or other suitable identification that indicates the class of used oil contained in that tank.

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### **Certificates of approval for used oil collection, storage and transportation**

18. (1) Except as provided for in subsections (3) and (6) and section 16, a person in possession of used oil, including a return facility, shall not construct, install or operate any associated equipment or engage in the collection, transportation and storage of used oil without first

- (a) applying for a certificate of approval in accordance with the requirements of section 19; and
- (b) obtaining a certificate of approval from the minister.

(2) The minister may

- (a) accept or reject an application for a certificate of approval; or
- (b) issue a certificate of approval subject to the terms and conditions that the minister considers appropriate.

(3) A person only storing used oil is not required to obtain a certificate of approval under subsection (1) if that used oil storage tank system is covered by an appropriate certificate of approval under the *Storage and Handling of Gasoline and Associated Products Regulations*.

(4) Where the used oil storage tank system referred to in subsection (3) does not fully comply with the requirements of section 21 , that used oil storage tank system shall, within 2 years of the coming into force of these regulations, be

- (a) upgraded to meet the requirements of section 21 ;
- (b) replaced with a system that meets the requirements of section 21 ; or
- (c) removed from service in accordance with the *Storage and Handling of Gasoline and Associated Products Regulations* .

(5) Where a used oil storage tank system is required to be upgraded or replaced in accordance with subsection (4), a certificate of approval under subsection (1) shall be applied for and obtained before that work is undertaken.

(6) A person only transporting used oil need not obtain a certificate of approval under subsection (1) if that system is covered by a valid certificate of approval under the *Environmental Protection Act* .

(7) A person renewing a certificate of approval issued under the *Environmental Protection Act* solely for the purpose of transporting used oil shall apply for a certificate of approval under subsection (1) of these regulations.

(8) Failure to comply with a term or condition of a certificate of approval is an offence contrary to these regulations.

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#### **Application for certificate of approval**

**19.** An applicant for a certificate of approval shall provide

- (a) information on the location of the facility;
- (b) information on the equipment used for collecting or transporting the used oil;
- (c) the plans and specifications of the storage or transfer facilities;
- (d) information on the training of employees;
- (e) the contingency plan for the prevention, detection, and handling of leaks and spills;
- (f) an outline of the methods of filling and emptying each storage tank;
- (g) information detailing methods for handling different classes of used oil and for holding used oil while awaiting a certificate of analysis;
- (h) environmental impairment insurance in an amount required by the minister;
- (i) a completed application in a form prescribed by the minister; and
- (j) other information that may be required by the minister.

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**Suspension or cancellation of certificate of approval**

20. (1) The minister may suspend or cancel a certificate of approval for failure by the holder of the certificate to comply with a provision of the Act, these regulations or a term or condition of the certificate of approval.

(2) The minister may, while it is in effect, amend a certificate of approval.

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**Construction standards**

21. (1) A used oil storage tank system shall

- (a) be constructed, shop tested, installed and maintained in accordance with standards acceptable to the minister;
- (b) be designed and installed so as to have secondary containment of the tank and all associated piping;
- (c) where the tank is manually filled, be fitted with a funnel having a capacity of at least 25 litres and the funnel shall include a rain cover and a screen;
- (d) have used oil removal or transfer connections located within a spill containment; and
- (e) have
  - (i) interstitial leak detection devices located within all secondary containments which shall be operated at all times when the used oil storage tank system contains any used oil, or
  - (ii) have alternative interstitial space monitoring procedures or methods established for all secondary containments where the minister has reviewed and accepted, in writing, those alternative proposals.

(2) Notwithstanding subsection (1), used oil in a quantity that does not exceed 205 litres a site, may be stored in one 18-gauge, 205 litre steel drum where

- (a) the drum is placed on or in a sturdy structure which acts as a secondary containment and is capable of preventing spilled or leaked used oil from entering the environment;
- (b) the top of the drum is equipped with an opening of sufficient size and shape that spillage during filling or emptying is prevented;
- (c) the drum opening is kept covered when not in use to prevent foreign material from entering;
- (d) if intended for emptying by vacuuming, the drum is equipped with appropriate venting; and
- (e) if intended to be transported by road while containing used oil, the drum meets the requirements of CAN/CGSB - 43.150-95, "Performance Packagings for Transportation of Dangerous Goods".

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**Ownership of used oil**

**22.** (1) Except in accordance with subsections (4), (5) and (7) or in accordance with section 16, a person shall not dispose of, offer for sale, sell, or transfer possession of used oil for any purpose to a person other than a used oil collector or the owner or operator of a used oil treatment, rerefining, recycling or destruction facility.

(2) A person who disposes of, offers for sale, sells or transfers possession of used oil under subsection (1) shall first

- (a) obtain a certificate of analysis of the results of a representative sample or samples of that used oil from an accredited laboratory; and
- (b) supply copies of the certificate of analysis to the minister and the used oil collector.

(3) Notwithstanding subsection (2), a person, instead of complying with subsection (2), may enter into an agreement in writing, with a used oil collector which provides for

- (a) the collection of used oil from the person,
- (b) the used oil collector to obtain a certificate of analysis of the results of a representative sample or samples of the used oil, either before or after bulking, from an accredited laboratory,
- (c) the used oil to be disposed of in accordance with these regulations, and
- (d) the delivery of a copy of the certificate of analysis to the minister.

(4) A person selling or offering for sale or transferring possession of used oil shall

- (a) maintain a record of the volume of used oil sold or transferred, the date of the transaction, and the person to whom the used oil was sold or transferred;
- (b) keep the record for a period of not less than 3 years from the date of the transaction; and
- (c) keep the certificate of analysis referred to in paragraph (2)(a) for a period of not less than 3 years.

(5) Except that this section shall not apply to used lubricating oil accepted at either a return facility or an alternate return facility for a vendor in accordance with subsection 13 (1)(b), every person buying or accepting possession of used oil shall

- (a) maintain a record of the volume of used oil bought or accepted, the date of the transaction, and the person from whom the used oil was bought or accepted;
- (b) keep the record for a period of 3 years from the date of the transaction; and
- (c) keep the certificate referred to in paragraph (2)(a) for a period of not less than 3 years.

(6) Used grease or class 4 used oil may only be offered for sale, sold or transferred to a used oil collector, or to a treatment, rerefining, recycling or destruction facility

- (a) which has a certificate of approval, issued under the Act, to treat, rerefine, recycle or destroy used oil or used grease; or
- (b) permitted by another jurisdiction.

(7) In the event of a spill of used oil or other hydrocarbon, a person may enter into an agreement,

which shall be in writing, with another party for the interim storage of the used oil pending compliance with subsections (1), (2) and (3) for a period not to exceed 6 months, or the lesser time the minister may, in writing, specify.

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#### **Accreditation standards**

23. (1) The minister may set accreditation standards for laboratories performing analyses under subsections 22 (1), (2) and (3).

(2) Where accreditation standards are set by the minister under subsection (1), a person shall use an accredited laboratory for analyses as required under subsections 22 (1), (2) and (3).

(3) Where the minister does not set accreditation standards under subsection (1) a person may use another appropriate laboratory for analysis as required under subsections 22 (1), (2) and (3).

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#### **Inspections**

24. (1) A person who owns or operates a facility for handling used oil shall furnish information, records, reports and agreements and carry out tests and examinations that an inspector may require for the purpose of carrying out these regulations.

(2) A person shall not hinder or obstruct an inspector in the lawful performance of his or her duties or furnish false information to an employee.

(3) In a prosecution, proceeding or hearing under the Act or these regulations, the production of a certificate or report of an inspector as to the analysis, description, ingredients, quality or quantity of used oil shall be considered to be evidence of the facts stated in that certificate or report.

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#### **Offences**

25. A person who violates a provision of these regulations is guilty of an offence.

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#### **Commencement**

26. These regulations come into force on April 1, 2003 .

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**Schedule**

Table of Contaminant Limits

Substance	Concentration (milligrams/kilogram)		
	Column 1	Column 2	Column 3
Polychlorinated Biphenyls (PCBs)		5	50
Total Organic Halogens (as chlorine)		1000	3000
Cadmium		2	2
Chromium		10	10
Lead		10	100

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by  \_\_\_\_\_ for the Federation of Law Societies of Canada 

# **APPENDIX E**

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## **Tabular Review of Canadian Used Oil Regulations**

Retailer Specifications

	Duties	Signage	Reporting	Handling Fees	Records
<b>Yukon</b>					
<b>Northwest Territories and Nunavut</b>					
<b>British Columbia</b>		must post consumer information provided by the producer and make information available as a handout			
<b>Alberta</b>			Must submit a 'return' to the association every three months	Must collect handling fees from all buyers, and must submit these handling charges every three months to the association	Shall keep records of all transactions, and the amount of applicable handling charge
<b>Saskatchewan</b>	May only purchase oil from producers that have product management plans	Every seller that is a retailer must display educational information in a visible manner. And make the information available free of charge			
<b>Manitoba</b>					
<b>Ontario</b>					
<b>Quebec</b>					
<b>New Brunswick</b>	Must operate a return facility or have a contract with someone to operate one within a 10km radius	Shall display the decal provided by the Minister with information about how to return oil and where			
<b>Nova Scotia</b>	Every retailer must have a return facility on premise, or a contract with a facility that's within 5 km of the retail location	Display at least one visible sign indicating how to return oil and where			
<b>Prince Edward Island</b>		Display sign provided by the Department, and post where and how to return oil  Shall provide an area for educational materials to be displayed			
<b>Newfoundland and Labrador</b>	Every retailer must have a return facility on premise, or a contract with a facility that's within 5 km	post a sign with the used lubricating oil logo, and info about how the oil can be returned provide an area to display educational materials			

## Return Facility Specifications

## Storage Facilities Specifications

	Distances	Material Accepted	Reporting	Transfer of Possession	Storage Facilities Specifications
<b>Yukon</b>					
<b>Northwest Territories and Nunavut</b>					
<b>British Columbia</b>	On retail premise or within 4 km, if within a municipality, or within 10 km, if outside a municipality, of the retail location.	Unlimited amounts of products within the products categories the producer sells.			
<b>Alberta</b>					
<b>Saskatchewan</b>	Every management program must operate at least one collection depot in each identified zone**				
<b>Manitoba</b>					
<b>Ontario</b>					
<b>Quebec</b>					
<b>New Brunswick</b>	On retail premise or within 10 km radius of the retail location.	Up to 25 L / person /day used oil, or the amount held in the largest container sold at the location	Shall keep and maintain records of generators' info and amount returned, for a minimum of 2 years	May only transfer to an approved collector	
<b>Nova Scotia</b>	On retail premise, or within 5 km of the retail location.	Up to 10 L / person / day, or the amount held in the largest container sold at the location			
<b>Prince Edward Island</b>		Up to 10 L / person / day, or the amount held in the largest container sold at the location	Keep and maintain records of person to whom the oil was transferred, volume and date of transfer		
<b>Newfoundland and Labrador</b>	On retail premise, or within 5 km of the retail location	Used oil in closed containers of same quantity sold, if it passes a visual inspection	If oil is rejected based on a visual inspection, info about the person, the date, and the estimated quantity of oil should be reported (and record kept for 3 years)		<p>All generators shall have a storage tank system, or an agreement with a storage facility to collect used oil. And place oil in appropriate containers, or have it returned to the vendor</p> <p>Classes of oil 1-4 are stored separately</p> <p>Used oil is not accepted at a storage facility unless it's located at a facility at which the oil is combusted, disposed, or otherwise processed OR provisions for the ongoing removal of all used oil have been made</p> <p>Must maintain a record of oil transfers (in and out) including volume, date, name. These records must be kept for 3 years.</p> <p>If accepting used oil, must maintain a record of the lab analysis of the oil.</p>

\*\* for a list of the zones see the Saskatchewan Used Oil Collection Regulations, Appendix, Part II, Table 1.

Collector Specifications

	Transfer of Possession	Duties	Testing
<b>Yukon</b>			
<b>Northwest Territories and Nunavut</b>			
<b>British Columbia</b>		Managed by the producer, unless otherwise specified in an agreement. Quarterly reporting to the director, of quantities collected on the producer's behalf	
<b>Alberta Saskatchewan Manitoba Ontario Quebec</b>			
<b>New Brunswick</b>	May only transfer to a receiver		Must have oil tested, before transferring possession, to insure flash point of less than 61 degrees Celsius, and whether or not it contains contaminants  Keep a copy of the test results in the transport vehicle at all times, if contaminants do not exceed max limits  Notify the Minister if the contaminants are above the max limits
<b>Nova Scotia</b>		Must write a report of the quantity and distribution of used oil collected  If operating a storage facility, must report quantities stored at the time of report	May accept untested used oil
<b>Prince Edward Island</b>		maintain a record of volume, recipient and date of transfer for a minimum of 3 years	May not transport without obtaining lab analysis, copying the results to the department, receive written permission from the department. Samples must be representative of entire depth of container.
<b>Newfoundland and Labrador</b>	Must maintain a record of transfers (in and out), including name, volume, date, and keep them for 3 years  If the oil is accepted, records must be maintained of the lab analysis, and kept for 3 years		Must do testing if an agreement has been made that the collector does the testing instead of the generator

End of Life Specifications

	General	Burning Oil as Fuel
<b>Yukon</b>		
<b>Northwest Territories and Nunavut</b>		
<b>British Columbia</b>	Must follow pollution prevention hierarchy, and reduce the environmental impact of the product's life cycle.	
<b>Alberta</b>		
<b>Saskatchewan</b>	No person may dispose of oil, oil filters or oil containers by spreading them on roads, placing them in landfills, pouring them in sewers, dumping them, open burning, using deep well injection, or any other method unless authorized by the Act or any other Act	
<b>Manitoba Ontario Quebec</b>		
<b>New Brunswick</b>	Only 'receivers' may accept oil from a generator or a collector.	Generator may burn up to 15 L / hr oil if furnace meets regs.
	Receivers may alter physical or chemical characteristics of oil	Return facility may burn up to 15 L / day if furnace follows regs.
	Receivers may market their used oil, or transfer possession to a carrier for disposal	Oil may be marketed/disposed as waste derived fuel to a holder of an approval to burn the oil
<b>Nova Scotia</b>		Must obtain an approval to burn used oil Must have the oil lab tested to insure that its not contaminated Must notify an Administrator 30 days prior to commencement of burning If burning in a used oil furnace, just need registration, but may not burn oil from a storage or return facility
<b>Prince Edward Island</b>		
<b>Newfoundland and Labrador</b>	Do not use as lubricant unless its class 1, flash point < 38 deg., or obtained from an approved facility  Do not use as a rust inhibitor, or combine in explosive mixture  Insure that used filters are drained, and the drained oil collected insure that filters are collected for recycling or other suitable disposal	Can not burn oil unless the burner or other combustor complies with the air pollution control guidelines

**Fees Charged**

	<b>Charged at Purchase</b>	<b>Charged for Registration</b>	<b>Compliance Charges</b>
<b>Yukon</b>			
<b>Northwest Territories and Nunavut</b>			
<b>British Columbia</b>			A person who contravenes the regulation is liable to a fine, not exceeding \$200,000
<b>Alberta</b>  (money is managed by the AUOMA)	\$0.05 per kg lubricating oil  \$0.05 per L container size  \$0.50 for filters under 20.3 cm length \$1.00 for filters greater than 20.3 cm length	\$200 registration fee for producers and end user	Operating without a permit will be fined: \$50,000 for individual, \$500,000 for corporation  If handling fees are not paid to the association, interest charged at 1% per month, 12.68% per year
<b>Saskatchewan</b> <b>Manitoba</b> <b>Ontario</b>			
<b>Quebec</b>		\$230.05 to become a member of SOGHU, then \$0.05 per litre oil, \$0.05 per L of container, \$0.5 per filter 203mm or less, and \$1.0 per filter greater than 203 mm. \$0.5 per sump transmission filter and \$0.25 per spray lubricant container.	Offenders who are natural persons are liable to be fined not less than \$2,000 and no more than \$25,000. Offenders who are legal persons are liable to be fined not less than \$5,000 and no more than \$250,000.  In the case of false reporting to the minister in an annual report a natural person may be fined no less than \$1,000 and no more than \$10,000; and a legal person no less than \$2,000 and no more than \$50,000.
<b>New Brunswick</b>		\$500 charged annually for carrier approval	
<b>Nova Scotia</b>			
<b>Prince Edward Island</b>			
<b>Newfoundland and Labrador</b>			

	Units	Arsenic	Cadmium	Chromium	Lead	Zinc	PCBs	Total Organic Halogens as Chlorine
<b>New Brunswick</b>	mg/kg	5	2	10	100	1500	5	1000
<b>Nova Scotia</b>	mg/kg		2	10	100		5	1000
<b>Prince Edward Island</b>	mg/L	5	2	10	100		5	1000
<b>Newfoundland and Labrador</b>	<b>Column 1</b>							
	mg/kg		2	10	10		5	100
	<b>Column 2</b>							
	mg/kg		2	10	100		50	3000

**Material Collected****Material Generated**

	Used Oil (L)	Oil Filters (# filters)	Oil Containers (kg)		Used Oil (L)	Oil Filters (# filters)	Oil Containers (kg)
<b>British Columbia</b>	44,119,202	4,721,232	1,055,969		60,437,263	5,828,681	2,070,527
	47,740,794	4,925,339	1,241,032		65,398,348	6,080,665	2,433,396
<b>Alberta</b>	72,477,048	6,425,888	1,334,191		94,248,437	7,695,674	2,679,098
<b>Saskatchewan</b>	16,570,000	1,890,000	250,000		19,963,855	2,362,500	1,000,000
<b>Manitoba</b>	12,500,000	1,550,000	181,000		16,447,368	2,039,474	840,000
<b>Quebec</b>	63,104,217	6,450,045	694,890		75,039,016	8,810,277	2,714,843

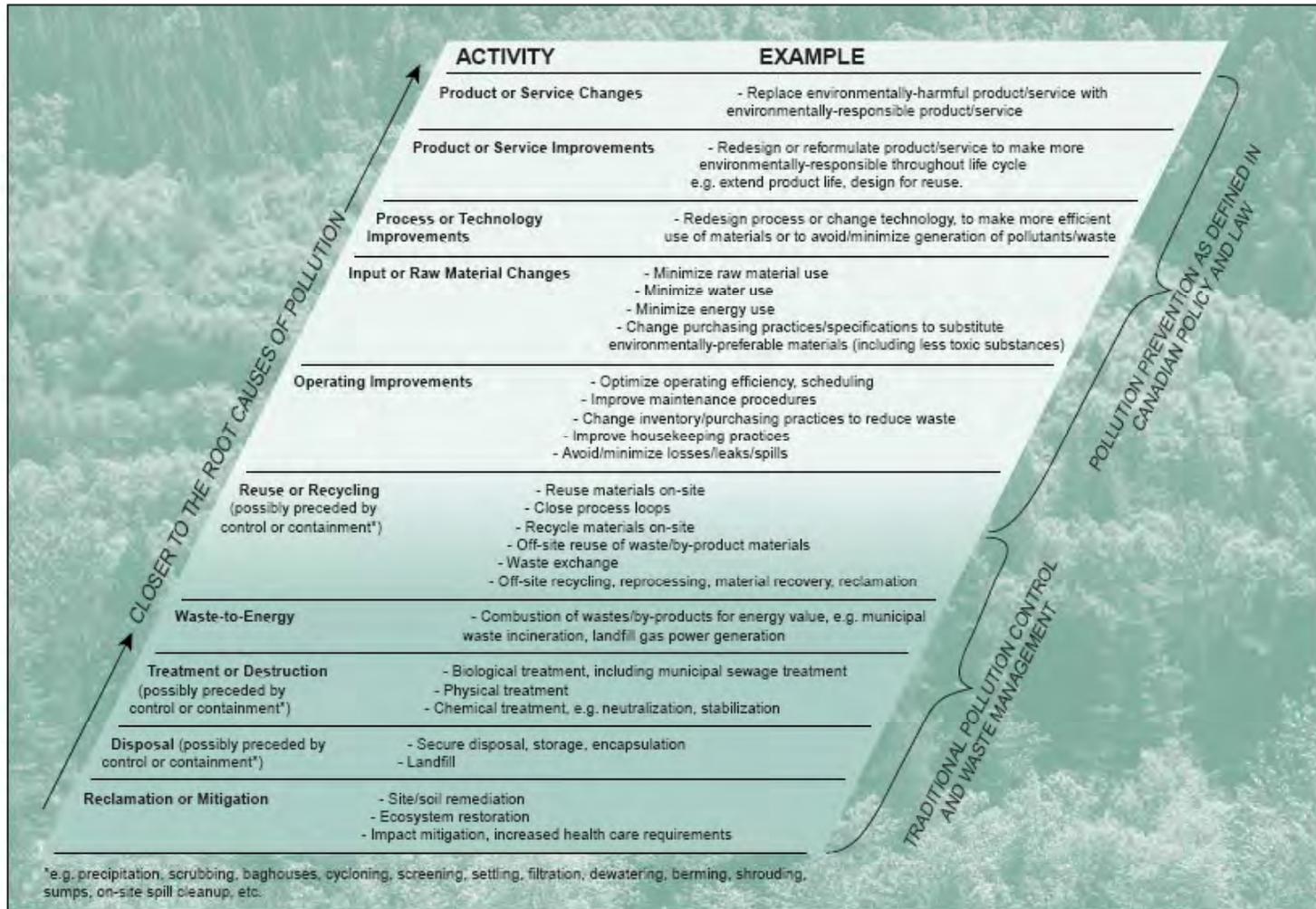
# **APPENDIX F**

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## **Environment Canada's Environmental Protection Hierarchy**

## Appendix F

### The Environmental Protection Hierarchy



# **APPENDIX G**

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## **Used Oil Collection and Processing Companies in the Atlantic Provinces**

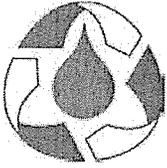
**Appendix G - Used Oil Collection and Processing companies in Atlantic Canada**

Business Name	Location of Processing/Collection	Processing Capacity	Areas Served	Services Provided	Approximate Amount Managed Annually	End Use of Materials Processed		
						Used Oil	Used Oil Filters	Used Oil Containers
<b>Atlantic Industrial Services (Owned by EnviroSystems)</b>	Head Office: Dartmouth, NS; HHW depot: Moncton, NB; Processing Facility: Debert, NS		Nova Scotia, New Brunswick and some from Prince Edward Island	Collect and Process Used Oil, Operate a Hazardous Waste Depot		dehydrated and sold on the market as a competitor for Bunker C oil. Used mainly in asphalt plants, greenhouses and plant nurseries	drained to collect residual oil, then crushed and sent for scrap metal recycling at the best available market: mainly in Ontario	Sold to be burned as a heat source
<b>Atlantic Industrial Cleaners (Owned by EnviroSystems)</b>								
<b>Barrington Environmental Services</b>	Dartmouth, NS; Saint John, NB		Nova Scotia, New Brunswick and some from Prince Edward Island	Collect and Process Used Oil	millions of litres	asphalt production and fuel source	crushed, drained to recover used oil, sent for recycling	recycled old metal containers, provide clients with reusable plastic containers
<b>Eastern Environmental Services</b>	Sussex, NB		New Brunswick, Nova Scotia, Prince Edward Island (none being the main contributor)	Collect and process used oil, manage used oil filters and containers	4 million litres	mostly used for asphalt production, would sell to be used as a fuel source but there aren't many that hold permits for doing that	drained to collect residual oil, then crushed and sent for scrap metal recycling	recycled and used as a fuel source
<b>Safety Kleen</b>	Bedford, NS		Nova Scotia, New Brunswick and some from Prince Edward Island and Newfoundland and Labrador	Collect used oil and used oil filters. Supply their own containers to locations that they collect from		Their Bedford location is a holding facility. All of the used oil that they collect is redirected to Atlantic Industrial Services in Debert.	All of the filters that they collect are also redirected to Atlantic Industrial Services.	do not manage used oil containers
<b>Loomers Pumping Services</b>	Kingston, NS		Nova Scotia	Collect and process used oil	confidential	Burned as a heat source		do not manage used oil containers
<b>Clean Harbors Environmental Services Caledonia Waste Oil Enterprises Ltd.</b>	Debert, NS		Nova Scotia and New Brunswick	Collect Used Oil		Sent to Atlantic Industrial Services, Eastern Environmental or (less frequently) Clean Harbors in Maine	Sent to Atlantic Industrial Services, NS, Nova PB, QE, or Clean Harbors, ON	do not manage used oil containers
<b>Pardy's Waste Management and Industrial Services</b>	Pasadena, NL; Saint John; NL							
<b>Crosbie Industrial Services Ltd</b>	Pasadena, NL; Saint John; NL		Newfoundland, some Labrador	Used oil collection and processing	8-9 million litres	Markets depend on the quality of the oil. Their processing facilities can only treat the waste to a certain level. If they receive good quality used oil it can be sold directly to applications such as asphalt manufacturing, if its of lower quality they treat it as well as they can and then send it to Barrington Industrial Services for further processing.	Manage oil filters from Wal-Mart and the Canadian Coastguard. Filters are steamed and crushed to remove used oil residue from them. They are then landfilled.	do not manage used oil containers
<b>Creed's Petroleum Limited</b>	Charlottetown, PEI		Prince Edward Island	Collect and Process Used Oil	confidential	sold mainly to greenhouse operations and garages that have furnaces for used oil. Also goes toward asphalt production.	Contract with fisheries wharves to collect used oil filters. Brought to a Waste to Energy facility called PEI Energy Systems, which is based in Charlottetown.	Disposed through GreenIsle, a recycling facility owned by Superior Sanitation. GreenIsle redirects them to PEI Energy Systems to be burned.
<b>Superior Sanitation</b>	Charlottetown, PEI		Prince Edward Island	Collect and Burn used oil as a fuel source	76,000 - 114, 000 L		Burned as a fuel source at the PEI Energy Systems Facility in Charlottetown	Burned as a fuel source at the PEI Energy Systems Facility in Charlottetown

# **APPENDIX H**

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## **NUOMAC List of Oil Related Products Included in Consumer Fee Programs**



# National Used Oil Material Advisory Council (NUOMAC)

British Columbia Used Oil  
Management Association  
(BCUOMA)

Alberta Used Oil  
Management Association  
(AUOMA)

Saskatchewan Association  
for Resource Recovery  
Corp. (SARRC)

Manitoba Association  
for Resource Recovery  
Corp. (MARRC)

Société de gestion  
des huiles usagées –  
Québec (SOGHU)

March 24, 2005

Dear Sir/Madame:

**RE: Amended UOMA EHC applicable list**

The primary function of NUOMAC is to encourage consistency in the Used Oil Management Programs in Canada. To this end, we have been working with the new program in Quebec (SOGHU) to amend the UOMA EHC Applicable List to clarify the wording in each category to ensure compliance with the Quebec Regulation while maintaining the original intent.

Enclosed is the amended UOMA EHC Applicable List to be used by all UOMA programs in Canada. Please check your product line against this list to ensure compliance.

We trust you support maintaining a common list across Canada to simplify the systems and operations required to maintain compliance with all provincial programs.

If you have any questions relating to this notice, please direct them to the Executive Directors of the respective associations.

Thank you for your cooperation in this matter.

Yours truly,

D.K. Dingle  
Chairman  
NUOMAC

British Columbia Used Oil Management Assoc (BCUOMA)  
 Alberta Used Oil Management Assoc (AUOMA)  
 Saskatchewan Association for Resource Recovery Corp (SARRC)  
 Manitoba Association for Resource Recovery Corp (MARRC)  
 La Société de gestion des huiles usagées (SOGHU)

### EHC Applicable Products List

**Description** **Product** **Container (50 L or Less)**

#### EHC applicable on both product and container

petroleum crankcase or engine oil	yes	yes
synthetic crankcase or engine oil	yes	yes
hydraulic fluid	yes	yes
polyolester fluids	yes	yes
circulating oil or turbine oil	yes	yes
paper machine oil	yes	yes
transmission fluid	yes	yes
power steering fluid	yes	yes
gear oil	yes	yes
vegetable oil for lubrication	yes	yes
re-refined oil	yes	yes
electrical insulating oil	yes	yes
refrigeration system oil	yes	yes
compressor oil	yes	yes
mineral heat transfer fluid	yes	yes
marine engine oil for vessels operating domestically	yes	yes

#### EHC applicable on container only

aerosol propelled lubricant (Quebec only)	no	yes
metal working oil	no	yes
form release oil	no	yes
textile oil	no	yes
chain oil	no	yes
rock drill oil	no	yes
2-cycle engine oil	no	yes
gasoline / 2-cycle engine oil mixes	no	yes
saw guide oil	no	yes
drawing, stamping and shaping oil	no	yes
process oil	no	yes
dedusting oil	no	yes
marine cylinder oil	no	yes
machine tool and slideway lubricant	no	yes
natural gas compressor oil	no	yes
conveyor lube	no	yes
dripless lube	no	yes
quenching oil	no	yes
pneumatic system oil	no	yes
rustproof oil	no	yes
food grade white mineral oil	no	yes
agricultural spray oil	no	yes

British Columbia Used Oil Management Assoc (BCUOMA)  
 Alberta Used Oil Management Assoc (AUOMA)  
 Saskatchewan Association for Resource Recovery Corp (SARRC)  
 Manitoba Association for Resource Recovery Corp (MARRC)  
 La Société de gestion des huiles usagées (SOGHU)

**EHC Applicable Products List**

**EHC applicable on filters**

spin-on or element style filter that is used in hydraulic, transmission or internal combustion engine applications including diesel fuel filter	yes
household furnace fuel filter	yes
coolant filter	yes
storage tank diesel fuel filter	yes
sump type automatic transmission filter	yes
plastic / paper element style filter	yes
diesel fuel filter used at retail & commercial pump islands	yes

**Description**

**Product**

**Container (50 L or Less)**

**EHC applicable on neither product nor container**

ethylene glycol heat transfer fluid	no	no
propylene glycol heat transfer fluid	no	no
silicone heat transfer fluid	no	no
synthetic aromatic hydrocarbon heat transfer fluid	no	no
glycol-based heat transfer fluid	no	no
water glycol hydraulic fluid	no	no
phosphate ester hydraulic fluid	no	no
hydraulic oil dye	no	no
polyglycol synthetic compressor oil	no	no
base oil, including re-refined base oil	no	no
grease	no	no
oil additive	no	no
oil treatment	no	no
diesel fuel treatment	no	no
cleaning/flushing fluids for motors/equipment	no	no
winter start fluid	no	no
brake fluid	no	no
undercoating	no	no
penetrating oil	no	no
hydraulic jack oil	no	no
3-in-1 household oil	no	no
aerosol propelled lubricant (Except Quebec)	no	no
gun oil	no	no
kerosene	no	no
urethane coating	no	no
sewing machine oil	no	no
export oil sales	no	no
cooking oil	no	no
windshield washer fluid	no	no
emulsified oil	no	no
wax	no	no
marine engine oil for vessels operating internationally	no	no

**EHC not applicable on filters**

gasoline fuel filter	no
air filter	no
household furnace air filter	no
sock-type filter	no

# **APPENDIX I**

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## **Unused Paint Generation Estimates**

## APPENDIX I - UNUSED PAINT GENERATION ESTIMATES

### Given:

Unused paint available annually in Nova Scotia (NS) for recycling<sup>1</sup> = 750,000 L

Population of Nova Scotia (NS) in 2006<sup>2</sup> = 936,998

Population of Newfoundland and Labrador (NL) in 2006<sup>3</sup> = 514,409 people

Population of Prince Edward Island (PE) in 2006<sup>4</sup> = 138,157 people

### Method:

Data provided by the Resource Recovery Fund Board (RRFB) that estimates the amount of unused paint generated in Nova Scotia was used to calculate per capita paint generation rate using the population estimate for each province. The annual per capita paint generation rate was then used to calculate the estimate of unused paint generated in Newfoundland and Labrador and Prince Edward Island: provinces that do not have readily available estimates of their own.

### Assumption:

The data obtained from the RRFB for paint collected for recycling can be used to model per capita unused paint generation in the Atlantic Provinces.

### Calculations:

*Formulas:* Paint Generated Annually ÷ population = Per Capita Annual Paint Generation Rate  
Population x Per Capita Annual Paint Generation Rate = Paint Generated Annually

Paint Generated Annually in NS ÷ population of NS = NS Per Capita Annual Paint Generation Rate  
750,000 L/year ÷ 936,998 people = 0.80 L/person/year

Population of NL x Per Capita Annual Paint Generation Rate = Paint Generated in NL Annually  
514,409 people x 0.80 L/person/year = 411,748 L/year ≈ 412,000 L/year

Population of PE x Per Capita Annual Paint Generation Rate = Paint Generated in PE Annually  
138,157 people x 0.80 L/person/year = 110,585 L/year ≈ 111,000 L/year

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<sup>1</sup> Website for the Resource Recovery Fund Board Nova Scotia (RRFB Nova Scotia): <http://www.rafb.com/>

<sup>2</sup> Statistics Canada Population Estimates: <http://www.statcan.ca/Daily/English/060328/d060328e.htm>

<sup>3</sup> Ibid

<sup>4</sup> Ibid

**Results:**

<b>Province</b>	<b>Unused Paint Generated Annually</b>
<b>Newfoundland and Labrador</b>	412,000 L
<b>Prince Edward Island</b>	111,000 L

**Sources of Error:**

Sources of error in this estimate include:

- Paint consumption differences between Nova Scotia and the other Atlantic Provinces.

# **APPENDIX J**

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## **Verbal Contact Reports**

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<b>PROJECT</b>	017238-0001	<b>DATE</b>	May 30, 2006
<b>ORGANIZATION</b>	Westmorland-Albert SW Commission	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Erin Bell	<b>(SNC • Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	

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**COMMUNICATION DETAILS:**

Crysta Cumming attempted to call Bill Slater, (506) 877-1050, but he was out of the office. Bill Slater's personal assistant directed me to a woman named Erin Bell. She is the Westmorland-Albert Public Relations representative.

Crysta Cumming asked about the recycling of Tim Horton's coffee cups in the Westmorland-Albert Region, and Erin Bell gave a general description of the program:

- Tim Horton's cups are baled with cardboard;
- Special collection bins are placed at all Tim Horton's locations in the region for:
  - Hot Beverage Cups (coffee cups) → Dry waste → recycling → used for inside of boxboard
  - Milk Cartons → because of their wax lining the only processing market is somewhere in Asia
  - Coffee Grinds → composted
- Moncton and Dieppe, as well as some other municipalities are jumping on board with this idea. They have passed or are passing a by-law which makes WET/DRY source separation of household waste mandatory. This by-law will be in effect in September 2006.
- Coffee cups that are placed in the household waste DRY stream (recyclables) are separated at the sorting plant and baled with the recyclable cardboard.

Erin Bell emailed a copy of the results from the 2005 DRY recycling amounts.

Mrs. Bell also mentioned that Erin Klinghammer would be able to give more detailed information on the numbers and how they were obtained. Contact with Erin Klinghammer was then attempted. A message was left on her voice-mail after speaking with Mrs. Bell.

<b>PROJECT</b>	Atl. Provinces Coop Initiative	<b>DATE</b>	May 30,2006
<b>ORGANIZATION</b>	Encorp Atlantic	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Brian Howell	<b>(SNC+Lavalin)</b>	<b>CONTACT TYPE:</b>  <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b> (506) 389-7322
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

**COMMUNICATION DETAILS:**

Crysta Cumming telephoned Brian Howell, from Encorp Atlantic, to talk about the plastic beverage containers collected through the depot program in New Brunswick (NB).

The first question was with regards to the numbers of plastic beverage containers collected by Encorp Atlantic. Mr. Howell's response contained the following information:

- Encorp Atlantic collects all of the non-alcoholic beverage containers in New Brunswick through 80-85 licensed depots, which are located all over the province.
- Neighbourhood Recycling, also known as Rayan Investments, collects alcoholic beverage containers.
- Beverage containers in NB are predominantly PET (Type1) plastics.
- The other kind of plastic used for these containers is HDPE (Type 2). The cost of recycling this material far exceeds its worth.
  - Encorp Atlantic collects approximately 250,000 lbs annually = 113.4 tonnes.
  - The broker currently used for this material, located in Montreal, is Conversion Plastic Inc. Conversion Plastic likely sends most of this type of material for recycling to somewhere in Asia.
- Encorp Atlantic is most concerned with PET (Type 1) recycling.
- Estimates of the historical and projected weights for plastic PET (Type 1) beverage container recycling are as follows.
  - Fiscal year ending March 31, 2006: 4.343 million lbs = 1.97 million kg = 1,970 tonnes
  - Fiscal year ending March 31, 2007: 4.409 million lbs = 2.00 million kg = 2,000 tonnes
  - Fiscal year ending March 31, 2008: 4.495 million lbs = 2.04 million kg = 2,040 tonnes
  - Fiscal year ending March 31, 2009: 4.614 million lbs = 2.09 million kg = 2,090 tonnes

Based on the following recovery rates:

- Fiscal year ending March 31, 2006: 75.6% recovery
- Fiscal year ending March 31, 2007: 77.1% recovery
- Fiscal year ending March 31, 2008: 78.1% recovery

**NOTE:** The projected numbers increase based on a projected increase in recovery rates, and projected growth of beverage container sales. The projected data does not include variability in the mean size of beverage containers sold (for example if retailers started to sell more 3L containers, instead of 2L containers, it would not be included) or the variability in the weight of the beverage containers, done to reduce cost to producers, and called 'lightweighting'. The weights are based on container counts; currently it is assumed that there are 13.8 plastic beverage container units per pound. Therefore the weight of each beverage container is assumed to be about 0.033 kg.

<b>PROJECT</b>	Atl. Solid Waste Coop Initiative	<b>DATE</b>	June 1, 2006
<b>ORGANIZATION</b>	RRFB Nova Scotia	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Jerome Paris	(SNC•Lavalin)	<b>CONTACT TYPE:</b>  <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Meeting <input type="checkbox"/> Other:
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

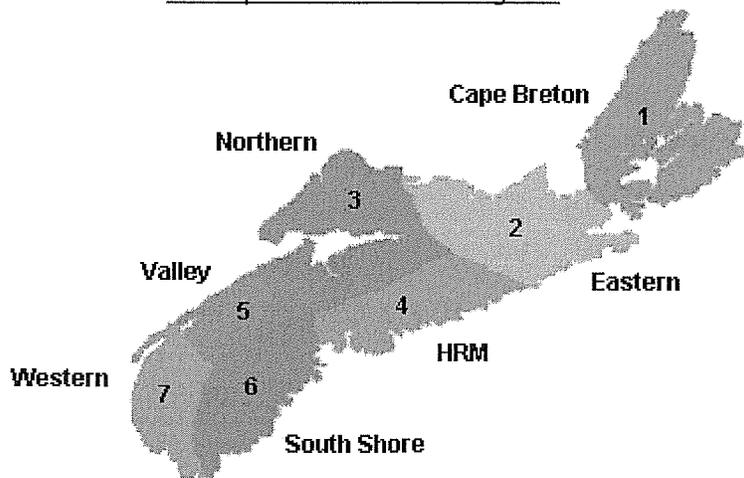
**COMMUNICATION DETAILS:**

After speaking with Joanne Henniger of the RRFB, (902) 897-4370, she directed the inquiry about beverage containers to Jerome Paris of the RRFB, (902) 897-3265. Mr. Paris provided the following information during the phone conversation.

**1. RRFB Management Practices:**

- The RRFB manages the non-reusable beverage containers included in the deposit-refund system.
- Reusable glass bottles are managed by the breweries.
- The RRFB collects beverage containers through Enviro-Depots.
- Material Recovery Facilities (MRFs) collect all curbside plastic along with other recyclable materials. They are responsible for managing all of the material that they collect. There are some plastic bottles and other refundable containers in their recyclables stream. Sometimes the refundable beverage containers are sold to the RRFB. They are purchased back through what is called a 'non-public buy back depot'.
- The RRFB sends the material collected at all 83 Enviro-Depots across the province to four Regional Processing Centres. Their locations are as follows:
  - Sydney, for Region 1
  - Kemptown, for Regions 2 & 3
  - Halifax Regional Municipality, for Region 4
  - Lunenburg, for Regions 5, 6 & 7

A map of Nova Scotia regions



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<b>PROJECT</b>	Atl. Provinces Coop Initiative	<b>DATE</b>	August 1, 2006
<b>ORGANIZATION</b>	RRFB Nova Scotia	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Jerome Paris	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>	
<b>COPY TO</b>			<b>PROJECT No.</b> 017238-0001

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**COMMUNICATION DETAILS:**

Jerome Paris, (902) 897-3265, was contacted to provide numbers and information on end-uses related to used paint collected through the Paint Stewardship Program in Nova Scotia. During the conversation, Mr. Paris provided the following information:

Mr. Paris was asked if the information provided by Pierre Landry of Laurentide Resource was correct. Specifically, if 90% of paint collected is recycled into a finished resalable product and if 90% of the paint cans collected are recycled? Mr. Paris responded by saying that:

- The data provided for the paint recycling is approximately correct; and
- Mr. Paris visited the site last week and he says that most of the paint cans collected are currently being landfilled.

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<b>PROJECT</b>	Atl. Solid Waste Coop. Initiative	<b>DATE</b>	June 1, 2006
<b>ORGANIZATION</b>	6RRFB Nova Scotia	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Jerome Paris	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Meeting <input type="checkbox"/> Other:	
<b>COPY TO</b>			

**PROJECT No.** 017238-0001

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**COMMUNICATION DETAILS:**

Sherry Roberts with the RRFB, (902) 895-5910, was contacted for information regarding the tire recycling program in Nova Scotia (NS). Ms. Roberts redirected the call to Jerome Paris of RRFB, (902) 897-3265. Mr. Paris provided the following information about tire recycling in Nova Scotia.

1. The current tire recycling program in NS:
  - Approximately 900,000 tires are recycled per year in Nova Scotia;
  - Atlantic Recycled Rubber provides tire recycling in NS. They are a company based out of Kemptown that collects and processes tires.;
  - Atlantic Recycled Rubber has a contract that ends in September; and
  - RRFB and NS are currently preparing a Request for Proposal.
2. Tire retailers in NS:
  - Tires are sold by registered retailers in NS;
  - There are approximately 700 retailers in NS; and
  - All retailers must accept used tires.
3. Problems with the current tire recycling system:
  - The current recyclers are finding that the fee collected at the point of sale is not covering the cost of recycling the material;
  - It may be helpful to include off-road tires in the recycling program; and
  - Approximately 5,000 off-road tires are sold in NS each year.
4. Atlantic Recycled Rubber:
  - Used to send crumbed rubber to a turf-making company, but the market has dried up quite a bit;
  - Now the rubber is shredded and sent to Cambridge, Ontario;
  - Also, whole tires are sent to a company in Quebec that uses them as a fuel source (are burned);
  - Some of the tires sent to Quebec also get recycled.

Mr. Paris suggested a conversation with personnel with Atlantic Recycled Rubber.

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<b>PROJECT</b>	Atl. Solid Waste Coop. Initiative	<b>DATE</b>	June 1, 2006
<b>ORGANIZATION</b>	NB Environment	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Cryta Cumming  Gregory Shanks	<b>(SNC•Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

When speaking with Mr. Frank LeBlanc about plastic bag management in NB, Mr. LeBlanc directed SNC to Gregory Shanks of New Brunswick Department of Environment at (506) 453-7945. Mr. Shanks provided the following information.

- Plastic bags are a higher priority for PEI and NS because they are a litter issue. They are not as much of a priority for NB.
- Understood that this initiative would focus more towards cooperation on issues that are potentially hazardous to the environment, such as tires, used oil, paint, etc.
- Mentioned that Coop Atlantic recently started to use more durable bags at their stores.
- Also mentioned that EPIC has started to show interest in getting plastic bags back.

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<b>PROJECT</b>	Atl. Solid Waste Coop Initiative	<b>DATE</b>	June 2, 2006
<b>ORGANIZATION</b>	NS Environment and Labour	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Cryta Cumming  Lorrie Roberts	<b>(SNC • Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

Referred to Lorrie Roberts of NS Environment and Labour, to verify what the ministers had said in a meeting that she attended. During the telephone conversation, Ms. Roberts supplied the following information.

- The ministers wish to get something out of this report that will have public appeal.
- Since plastic bags and disposable beverage cups are issues that are evident to most people, it would be beneficial to come up with a way that the province could take action on them. Something like that might provide the ministers with the publicity that may lead to the issue being dealt with quickly. It would show the intent of the department to deal with solid waste management issues.
- For example, Ireland has a fee paid on plastic bags. An example like this shows that that the province is being active about these issues.

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<b>PROJECT</b>	Atl. Solid Waste Coop Initiative	<b>DATE</b>	June 2, 2006
<b>ORGANIZATION</b>	RRFB Nova Scotia	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Bill Ring	<b>(SNC+Lavalin)</b>	<b>CONTACT TYPE:</b>  <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

In conversation with Bill Ring from the RRFB; the following information was provided regarding used tires:

- New Brunswick (NB) is in the process of issuing a tender for the contract to manage used tires.
- Nova Scotia (NS) will be going through the tender process for the same contract in approximately one month.
- Perhaps cooperation in industry will result from the establishment of these contracts.
- They are finding that recycling the rubber from used tires is an expensive process that results in a low value product when compared to the amount of energy that has to be put into it the process.
- A study of used tires in the US showed that, on average, it is not feasible to recycle tires that are located more than 150 miles from the processing plant. This is known as the 150-mile radius rule (RMA report). This rule is due to the fact that used tires will maximize volume limits and become too expensive to collect.
- In NS, Kemptown is fairly central, although Yarmouth and Sydney are still much further than the recommended radius.
- Tires are ideal for cooperation because of the radically different situations in the four Atlantic provinces. NB and NS may have some potential for this. For example, all four provinces are currently doing different things with their tires. Newfoundland and Labrador (NL) is stockpiling them. NS and NB are turning them into different products. PEI is sending their tires to Quebec to be used in cement kilns.
- In NS, even after the recycling process is complete, they are left with about 3,000 tonnes/year of tire fluff, which still has to be landfilled.
- The options in Quebec are more feasible. The tires are placed in a cement kiln, to be used as an energy source while providing some of the constituents needed for the cement powder. Usually, iron has to be added to the cement, but since they are adding steel with the tires, this is not necessary. The kiln is kept at the same temperature continuously, so the process is very precise.
- On average, tires have a 25% higher BTU content or capacity than coal, so when used in place of coal they provide more energy per tonne.
- Also, some of the emissions from the stack (for example NOx) are lower when using tires as fuel for the cement kiln, since they are offsetting the use of coal.
- Approximately 45% of the tires in the US are burned in kilns (as shown on the RMA website)
- This process is conducted at two locations in Canada:
  - St. Lawrence Cement Plant
  - Lafarge (in St. Constant). Lafarge has recently received approval for their operations in Ontario and New York.

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<b>PROJECT</b>	Atl. Solid Waste Coop Initiative	<b>DATE</b>	June 2, 2006
<b>ORGANIZATION</b>	NB Environment	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Cryta Cumming  Liane MacFarlane	<b>(SNC • Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>			<b>PROJECT No.</b> 017238-0001

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**COMMUNICATION DETAILS:**

Contacted Liane MacFarlane to follow up on information that she gathered from the meeting of the ministers for the Atlantic Provinces Solid Waste Resource Cooperative Initiative. During the telephone conversation, Liane provided the following information:

- The four ministers instantly agreed that the materials of top priority are used oil, paint and tires. These are the types of materials that could have success at the onset.
- Paper cups were more of an issue for the minister of PEI. NS showed interest in this as well.
- In NB, solid waste such as Tim Horton's cups are not as important to the environment as the other materials. They are perhaps more of a tourism issue.

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<b>PROJECT</b>	Atl. Solid Waste Coop Initiative	<b>DATE</b>	June 9, 2006
<b>ORGANIZATION</b>	MMSB	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Glenda Melvin	<b>CONTACT TYPE:</b>	<input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

Contacted Glenda Melvin from the Multi-Material Stewardship Board (MMSB), (709) 753-0948, to discuss the tire recycling program in Newfoundland and Labrador (NL). She offered the following information during the conversation:

- Tires collected through the program include passenger tires, light truck tires and tractor-trailer tires.
- Approximately 440,000 tires are sold in NL per year.
- Based on collection numbers from 2002, approximately 340,000 – 360,000 used tires are collected each year.
- There are no tire producers in NL.
- There are no tire processors currently operating in NL.
- Currently tires are being collected and stored. Newfoundland is looking for a market for used tires.
- Paul Russell may be contacted for information on beverage containers (709) 757-3686.
- Mike Martin may be contacted for information on HHW collection days (709) 753-0958.
- Ms. Melvin could not provide a contact for information on used oil.

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<b>PROJECT</b>	Atl. Solid Waste Coop Initiative	<b>DATE</b>	July 12, 2006
<b>ORGANIZATION</b>	MMSB	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Glenda Melvin	<b>(SNC+Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

The Multi-Materials Stewardship Board (MMSB), (709) 753-0948, was contacted to inquire about the amount of used tires currently stockpiled in the Province of Newfoundland and Labrador. Ms. Glenda Melvin provided the following information.

- 2 stockpiles in the Province;
- Approximately 1.2 million tires in storage;
- Tires are not baled.



<b>PROJECT</b>	Atl. Solid Waste Coop Initiative	<b>DATE</b>	June 15, 2006
<b>ORGANIZATION</b>	Island Waste Management Corporation	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Heather Chowen	<b>(SNC • Lavalin)</b>	<b>CONTACT TYPE:</b>  <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

**COMMUNICATION DETAILS:**

Heather Chowen, (902) 368-5033, from the Island Waste Management Corporation (IWMC) replied to an email sent that requested data for the amount of plastic beverage containers and waste paint generated or collected in PEI. During the telephone conversation, Ms. Chowen provided the following information.

- The source separation system in PEI does not require beverage containers to be segregated from the rest of the plastics waste stream. There is no tonnage data available for this material.
- In PEI, paint is collected at Household Hazardous Waste (HHW) depots across the province that are managed by the IWMC. Paint is collected with flammables and therefore there is no data available specifically for how much is collected.

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<b>PROJECT</b>	Atl. Provinces Solid Waste Coop	<b>DATE</b>	June 30, 2006
<b>ORGANIZATION</b>	Island Waste Management Corporation	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Heather Chowen	<b>(SNC♦Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

Contacted Heather Chowen of the Island Waste Management Corporation (IWMC) to inquire about what was being done to previously collected tires in PEI. During the telephone conversation the following information was provided.

- All passenger tires that are currently being collected are being sent to cement kilns in Quebec;
- Larger off-road tires are being baled;
- Tires that were collected in the past, at a time when a market did not exist for them, are also baled;
- There are approximately 9,000 bales of tires in storage. This consists of both passenger and off-road tires. There are approximately 100 tires/bale.;
- Tires are baled using a hydraulic baler that compacts them;
- Baling the tires reduces the volume, the risk of fire, and minimizes the area available for water to collect which provides a habitat for mosquitoes. Bales of tires are very difficult to ignite and if they do catch fire, the fire can be fairly easily extinguished.;
- The baled tires do not have a market. The Quebec cement kilns will not take them because they will not lie flat on the conveyor belt in the processor. Once tires have been baled, they have a sort of memory and will not take on their former shape.

<b>PROJECT</b>	Atlantic SWR Coop Initiative	<b>DATE</b>	July 11, 2006
<b>ORGANIZATION</b>	The Nova Scotia RRFB	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Brenda Gordon	(SNC · Lavalin)	<b>CONTACT TYPE:</b>  <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Meeting <input type="checkbox"/> Other:
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

**COMMUNICATION DETAILS:**

Resource Recovery Fund Board (RRFB) was contacted for information on the paint collection and recycling program in Nova Scotia. Was directed to Brenda Gordon, (902) 897-4334, who was involved in setting up the paint program. Ms. Gordon mentioned that there is another individual with the RRFB who is familiar with the technical aspects of the program. During our conversation Mrs. Gordon provided the following information.

- There are approximately 30 brand owners that sell paint in Nova Scotia.
- The RRFB collects fees on all paint products sold, so that they can be collected and recycled after use.
- Brand owners are required by provincial regulation to be registered with the RRFB and remit environmental handling charges to the Board, as follows.
  - Aerosol cans and cans ≤ 250 ml: \$.10
  - Cans (>250ml, ≤ 1L): \$0.25
  - Cans (>1L, ≤5L): \$0.50
  - Cans (>5L, ≤23L): \$1.0
- The fees were originally set at these prices to mimic the practices in British Columbia and Quebec, both of which had a paint recycling program at the time when NS was establishing one. The NS program has probably lost a bit of revenue over time. When the program was first established, a lot of people were bringing in old paint that would not be eligible for fees recovered from the brand owners.
- British Columbia was the first to have a paint program in place. Quebec was the second and Nova Scotia was the third. British Columbia does not recycle their paint, rather it is sent for safe disposal. British Columbia also collects many more products under their program because they are not recycled. Quebec does not deal with Product Care, most likely due to language barriers, and they operate their program in a different way. It is therefore somewhat difficult to compare the cost of these three programs.
- Approximately 25 of the 30 brand owners that sell paint in NS work with a company called the Product Care Association, which originated in British Columbia, to remit their fees to the Board. Essentially, brand owners submit their fees to Product Care, who then gives it to the RRFB.
- Product Care Association has an agreement with the RRFB to collect fees from brand owners and remit them to the board. They are solely involved in the flow of fees. But the RRFB does not require that brand owners use Product Care, they may also pay their fees directly to the RRFB.

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<b>PROJECT</b>	Atl. Provinces Waste Coop Initiative	<b>DATE</b>	July 25, 2006
<b>ORGANIZATION</b>	Laurentide Resource	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Pierre Landry	<b>(SNC•Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-00001

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**COMMUNICATION DETAILS:**

Pierre Landry, (506) 866-4255, of Laurentide Resource was contacted to provide information on the paint recycling that is practiced at their facilities. During the conversation, Mr. Landry provided the following information:

- The approximate amount of paint that goes through the facility is 500,000-600,000 units/year. A unit is considered as a can of paint (any size) and includes cans between 500 ml and 5 gallons.
- The paint is received from Nova Scotia, New Brunswick and sometimes Prince Edward Island and other places, depending on whether or not Laurentide Resource has a contract with them to recycle their paint.
- Approximately 80% of the paint recycled through the Springhill Facility is from the Nova Scotia Paint Stewardship Program.
- It is difficult to evaluate the difference between the amount of paint that gets recycled and the amount that goes to waste. Approximately 90% of the paint that comes into the facility gets recycled.
- Approximately 90% of the paint containers that go through the facility get recycled too.
- The paint gets bulked in Springhill, NS.
- The final processing into a saleable product takes place in Victoriaville, Quebec.
- The location of the final processing could change at any time. It depends on the availability of recyclable paint. In 1992-93, processing into a saleable product took place in Atlantic Canada.
- The funding structure of most stewardship organizations begins with a fee charged at the point of sale. The money is then directed to a Stewardship Board, such as the RRFB, who redistributes the money to collectors, handlers and ultimately, the processors.
- The fee charged on cans of paint varies with size, but it is approximately \$0.50 on a 3.8 L can.
- The program in Nova Scotia is one of only four programs in all of North America. Programs are also in effect in British Columbia, Saskatchewan and Quebec.
- The market for recycled paint is evolving. The challenge is that when a stewardship program is implemented, a significant quantity of paint gets collected, but there is no market for the material.
- One of the lessons learned is that if government is going to put a stewardship program in place, there should also be procurement policies so that there is a market for the material that is collected.

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<b>PROJECT</b>	Alt. Provinces Coop Initiative	<b>DATE</b>	August 2, 2006
<b>ORGANIZATION</b>	CPPI	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Bill Simpkins	<b>(SNC+Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

Bill Simpkins, (902) 465-7776, of the Canadian Petroleum Products Institute (CPPI) was contacted to provide information on what the current end-uses are for used oil collected in the Atlantic Provinces. He provided the following information during our conversation.

- In this part of the country, used oil is generally burned in furnaces as a heat source;
- Furnaces, cement kilns and burning at refineries are likely destinations for used oil;
- The exact destination of the used oil is unknown to CPPI because it is not tracked.

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<b>PROJECT</b>	Atl. Provinces Coop Initiative	<b>DATE</b>	August 11, 2006
<b>ORGANIZATION</b>	Loomers Pumping Services	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b>	Cryta Cumming (SNC+Lavalin)	<b>CONTACT TYPE:</b>	
between		<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Meeting
and	Anonymous contact	<input type="checkbox"/> Other:	
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

When researching the markets for used oil in Nova Scotia, Loomers Pumping Services, (902) 765-2774, were contacted. The contact would not provide her name. During the conversation, the contact provided the following information.

- The company collects used oil, recycles it and sells it;
- The company mainly collects used oil from local garages;
- The company recycles the material that they collect;
- The amount that they receive varies, and is confidential;
- The oil is resold to whoever burns used oil, and the information is confidential;
- Filters are sent to be recycled, perhaps in Stellarton.

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<b>PROJECT</b>	Atl Provinces Coop Initiative	<b>DATE</b>	August 11, 2006
<b>ORGANIZATION</b>	Clean Harbors Environmental Services	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Jeff Johnson	<b>(SNC•Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

When researching the markets for used oil in Nova Scotia, Jeff Johnson, (902) 662-3336, of Clean Harbors Environmental Services was contacted for information. During the telephone conversation, Mr. Johnson provided the following information.

- Clean Harbors in Debert, Nova Scotia acts as the collector of used oil;
- Clean Harbours collects from all over Nova Scotia, and some locations in New Brunswick;
- The company operates Household Hazardous Waste Depots (HHWD). As such, some of the used oil that they receive is through HHWDs.
- Once the oil has been collected, it is sent to:
  - Atlantic Industrial Cleaners;
  - Eastern Environmental Services; and
  - sometimes to Clean Harbors in Maine, USA (although in limited quantities).
- Filters that are collected are sent to:
  - Atlantic Industrial Services in Nova Scotia;
  - Nova PB in Quebec; and
  - Clean Harbors in Burlington, Ontario (occasionally).

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<b>PROJECT</b>	Atl. Provinces Coop Initiative	<b>DATE</b>	August 11, 2006
<b>ORGANIZATION</b>	Atlantic Industrial Services	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Darren	<b>(SNC • Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

In researching the markets for used oil in Nova Scotia, Darren at (902) 662-3358 with Atlantic Industrial Cleaners was contacted for information. During the conversation, the following information was provided.

- Atlantic Industrial Cleaner conducts collection and processing of used oil from garages and other places that provide oil changes, such as Canadian Tire and WalMart.
- The company also works as a drop-off for people who want to dispose of their household used oil.
- The used oil is dehydrated and sold as a competitor to Bunker C oil.
- The oil sold is used mainly in:
  - Asphalt plants;
  - Green houses and nurseries;
  - For thermal treatment (burned as a heat source).
- The amount that they collect annually is in the millions of litres.
- Used oil filters are drained so that the used oil contents can be retrieved. Then the filters are crushed and sent for metals recycling at the best available market. This market is mainly in Ontario.
- Used oil containers are sold to be burned as a heat source as well.

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<b>PROJECT</b>	Atl. Provinces Waste Coop Initiative	<b>DATE</b>	
<b>ORGANIZATION</b>	Eastern Environmental Services	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Cryta Cumming  Brad Howland	<b>(SNC • Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>			<b>PROJECT No.</b> 017238-0001

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**COMMUNICATION DETAILS:**

Eastern Environmental Services, 1-800-933-5959, was contacted to discuss the management of used oil, used oil filters and used oil containers. SNC was directed to a gentleman named Bev. During the conversation the following information was provided.

- Eastern Environmental Services collected approximately 4 million litres of used oil annually for recycling.
- Used oil is collected from garages, and other places that perform oil changes. Oil is not picked up from DIY locations.
- Used oil is collected from New Brunswick, Nova Scotia and Prince Edward Island. None of these provinces are the main contributor to their used oil supply although they all contribute to it. Eastern Environmental Services does not manage oil from Newfoundland and Labrador.
- Eastern Environmental Services re-refine used oil. It is sold mainly for use in asphalt.
- The oil could be burned for use as a fuel source if the buyer has a permit to burn the material, but not many do.
- Used oil filters are drained, compacted, and sent to a scrap metal yard (the name of the scrap metal yard is confidential)
- Used oil containers are recycled and sold as a fuel source.

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<b>PROJECT</b>	Atl. Provinces Waste Coop Initiative	<b>DATE</b>	August 15, 2006
<b>ORGANIZATION</b>	Martime Clean Oil	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Richard Cormier	<b>(SNC • Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

Maritime Clean Oil in New Brunswick was contacted for information on whether they are part of the used oil management industry in the Atlantic Provinces. SNC was directed to Mr. Richard Cormier, (506) 433-9338, and during the conversation, Mr. Cormier provided the following information.

- Maritime Clean Oil sells products related to lubricating oil management.
- The 'Filter Clean System' is a product that is offered.
- The three main factors that deteriorate the quality of lubricating oil are heat, contaminants, and water.
- The 'Filter Clean System' reduces the presence of solids in oil down to one micron in size. This includes carbon contaminants as well as metals and other compounds. The filter also removes water from the oil.
- By filtering the oil, the oil is of better quality and therefore wear on the engine is reduced.
- It is a system that can be added onto any size engine, from automotive to large boat engines.
- The system is best used for larger industrial and commercial applications although it also lengthens the life of all engine oils.
- Typically, the filter reduces the frequency of oil changes by 5-10 times but the effectiveness depends on the application.
- The filter can reduce the danger of oil spills that are caused by machinery failure because it helps to maintain the systems.
- The filter also detects the presence of water and other contaminants by changing colour, which can help alert machinery operators of problems in the engine.
- Filters are disposed as hazardous waste.
- The filters are made of 'a very special paper'.
- A casing surrounds the filter, which is not meant to be disposable. The only part of the filtration that goes to waste is the contaminated paper portion.
- The system is very economical. For example, an oil change for a large truck would cost approximately \$200, while the filtration system costs \$37. This can save many oil changes.

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<b>PROJECT</b>	Atl. Prov. Waste Coop Initiative	<b>DATE</b>	August 15, 2006
<b>ORGANIZATION</b>	Barrington Environmental Services	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Anonymous	<b>(SNC • Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

Barrington Environmental Services was contacted to determine how used oil is collected and managed in Atlantic Canada. SNC spoke with a woman who preferred not to offer her name. During the conversation, the following information was provided.

- Barrington Environmental Services collects used oil from businesses, gas stations, and even individuals who want to return their used oil for recycling.
- Annually, Barrington Environmental Services receives millions of litres of used oil from Nova Scotia and New Brunswick, and a small portion from PEI.
- Barrington Environmental Services processes the used oil that they collect by removing dirt, metals and water from it, so that it can be used for applications that require crude oil; such as asphalt production.
- Used oil filters are crushed and drained, and the used oil associated with them is collected for recycling.
- Used oil filters are recycled.
- Barrington Environmental uses reusable plastic containers for their oil and will supply these containers to individuals who bring in old barrels that are rusted or broken.

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<b>PROJECT</b>	Atl. Provinces Coop Initiative	<b>DATE</b>	August 17, 2006
<b>ORGANIZATION</b>	NLEC	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  John Dutton	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Meeting <input type="checkbox"/> Other:	
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

The Multi-Materials Stewardship Board (MMSB), (709) 753-0948, was contacted to inquire about used oil collectors and processors in Newfoundland and Labrador. SNC was directed to Mr. John Dutton of the Newfoundland and Labrador Department of Environment and Conservation, (709) 729-2561. During our conversation Mr. Dutton provided the following information.

- The businesses that he knows of that are involved in collecting and processing used oil in Newfoundland and Labrador are:
  - Pardy's Waste Management; and
  - Crosbie's Industrial Services.
- Mr. Dutton indicated that it would be best to speak to Ms. Marie Ryan about this as the Waste Management Division is more directly involved with the collectors and processors.

<b>PROJECT</b>	Atl. Provinces Waste Coop Initiative	<b>DATE</b>	August 17, 2006
<b>ORGANIZATION</b>	Barrington Environmental Services	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b>	Crysta Cumming	<b>(SNC • Lavalin)</b>	<b>CONTACT TYPE:</b>
between			<input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b>
and	Sid Hales		<input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>			<b>PROJECT No.</b>

**COMMUNICATION DETAILS:**

Sid Hales of Barrington Environmental Services, (902) 468-8848, was contacted to provide information on the location of facilities for processing used oil. During the conversation, Mr. Hales provided the following information.

- Barrington Environmental Services operates two processing facilities. One in Dartmouth, NS and the other in Saint John, NB.
- Used oil that is collected in Nova Scotia is typically sent for processing at the Dartmouth location, while oil collected in New Brunswick is processed at the facility in Saint John.
- Sometimes trucks are sent to Prince Edward Island to collect used oil, but the market is smaller and inconsistent.
- In the winter, there is a big demand in PEI by those who want to burn used oil in furnaces, as a heat source.
- Some of the larger companies involved in collecting used oil in PEI include Atlantic Industrial Services, Barrington Environmental Services, Creed Petroleum and Superior Sanitation.
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Note: Superior Sanitation uses the used oil as a heating source. On the Superior Sanitation website there i's a link to a neighbouring company called GreenIsle. GreenIsle processes some of the blue bag recyclable material that is collected through the Island Waste Management Corporation. The GreenIsle website indicates that they burn used oil, collected by Superior Sanitation, to heat their buildings in the winter.

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<b>PROJECT</b>	Atl. Provinces Coop Initiative	<b>DATE</b>	August 17, 2006
<b>ORGANIZATION</b>	Crosbie's Industrial Services	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Shaw	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Meeting <input type="checkbox"/> Other:	
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

Crosbie's Industrial Services in Newfoundland was contacted to provide information on used oil management in Newfoundland and Labrador. The inquiry was directed to a gentleman named Shaw, who, during our conversation, provided the following information.

- Crosbie's Industrial Services collects used oil classes 1,2 and 3.
- The oil that is collected is mainly from Newfoundland, but some is also collected from the coast of Labrador.
- They collect approximately 8-9 million litres of oil annually although this also includes oily bilge water collected from ferries, etc.
- Oil is collected from garages, ferry terminals, boats etc.
- Most of the processing is done in the St. John's location. The smaller facility in Pasadena also conducts a small amount of processing.
- Basically, the oil is boiled to evaporate water out of it and to also remove the grit from it.
- The markets for the material depend on the quality of the oil. Sometimes it is good enough to be sold straight to asphalt plants or other applications (and they obtain a higher price for cleaner material), but usually the oil is sent to a company in Nova Scotia called Barrington Environmental Services, for further processing.
- Most of the markets for used oil generated in Newfoundland and Labrador are on the 'mainland'.
- They manage filters from Wal-Mart and the Canadian Coast Guard.
- Filters are steamed to remove oil from them, and then they are crushed. By the time they are crushed most of the residual oil has been removed. The filters are then landfilled.

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<b>PROJECT</b>	Atl. Provinces Coop Initiative	<b>DATE</b>	August 17, 2006
<b>ORGANIZATION</b>	Creed's Petroleum Services	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Andrew Creed	<b>(SNC+Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

Creed's Petroleum Services in Prince Edward Island, (902) 892-6036, was contacted while researching markets for used oil in Prince Edward Island. SNC was directed to Mr. Andrew Creed. During our conversation Mr. Creed provided the following information.

- Creed's Petroleum Services collects used oil from garages and bulk plants such as Irving or other places that have a storage tank for used oil. Occasionally, they do jobs that deal with situations such as oil tanks buried underground that need to be emptied before they are removed. They also collect bilge water etc.
- The amount of used oil that they collect and process is confidential.
- They process the used oil using an oil-water separator.
- The processed used oil is sold mainly to greenhouse operations and garages that burn used oil. They also sell some for asphalt production. The used oil that is processed by Creeds find markets on Prince Edward Island.
- Filters are collected from fisheries wharves. They typically pick up full barrels of used oil filters.
- Filters are sent to Trigen-PEI. It is a waste to energy facility located in Charlottetown.
- They also deal with some waste 'tack' from small paving jobs.
- Containers are sent for recycling by GreenIsle, a waste separation facility that is a branch of Superior Sanitation.

In Prince Edward Island there is an issue with people coming around at night and collecting used oil without informing the owners of the storage tanks. Sometimes the owners of the tanks do not complain because they do not have to pay for collection. The problem is that if there is an oil spill created by one of these collectors, the owners of the storage tank have to pay for it. So, arguably, it is better to lock up the tank and get a collection company to collect it. The night collectors are doing it because they do not have to pay for oil coming from the processing facilities, most of them burn it in furnaces for heating.

Also, some garages have their own oil-water separators and process the oil themselves so that they can burn it as a fuel source. Maybe about half of the garages, or less than half, in the Province of PEI do this.

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<b>PROJECT</b>	Atl. Prov. Waste Coop Initiative	<b>DATE</b>	August 18, 2006
<b>ORGANIZATION</b>	Safety Kleen	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Cryta Cumming  Ginger/Bill Doyle	<b>(SNC♦Lavalin)</b>	<b>CONTACT TYPE:</b> <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Meeting <input type="checkbox"/> Other:
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

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**COMMUNICATION DETAILS:**

A representative for Safety Kleen, (902) 835-8078, named Ginger was contacted about what the company does in terms of used oil collection and processing. She provided most of the following information. She also forwarded SNC to Mr. Bill Doyle who provided details for used oil filter management.

- Safety Kleen collects used oil from containers and from bulk storage tanks.
- They act as a storage facility. The used oil is then transferred to Atlantic Industrial Services for recycling. Sometimes oil is forwarded to another Safety Kleen division, but almost all of it gets sent to Atlantic Industrial Services.
- Filters are crushed and transferred to Atlantic Industrial Services for recycling.
- Safety Kleen does not usually deal with smaller used oil containers. They provide reusable containers for the used oil that they collect from businesses.

<b>PROJECT</b>	Atl. Prov. Waste Coop Initiative	<b>DATE</b>	August 21, 2006
<b>ORGANIZATION</b>	Superior Sanitation	<b>PAGE</b>	<b>1</b>
<b>CONVERSATION</b> between and	Crysta Cumming  Davy Clark	<b>(SNC • Lavalin)</b>	<b>CONTACT TYPE:</b>  <input checked="" type="checkbox"/> <b>Telephone</b> <input type="checkbox"/> <b>Meeting</b> <input type="checkbox"/> <b>Other:</b>
<b>COPY TO</b>		<b>PROJECT No.</b>	017238-0001

**COMMUNICATION DETAILS:**

Contacted Superior Sanitation to inquire about their involvement with used oil management. The inquiry was forwarded to Mr. Davy Clark, who, during the conversation, provided the following information.

- Superior Sanitation collects approximately 20,000-30,000 gallons (75,700 – 113,600 L) or more annually.
- GreenIsle, the sister-company to Superior Sanitation collects the used oil using pumping trucks.
- They collect used oil from garages, fleet maintenance shops, auto dealerships and anywhere else that calls Superior Sanitation to have their hydraulic fluid/motor oil/ lubricating oil collected. They also sometimes collect from people that have old oil tanks etc. that need to be drained prior to disposal.
- They mainly provide collection services in the Charlottetown area, near the GreenIsle facility. The used oil is then shipped up to Summerside.
- The oil that they collect is burned at their facility in Summerside for heating purposes during the winter months. Originally they got a used oil furnace to burn the used oil that they generate, but over the years the use of used oil furnaces has increased. They have replaced 'new oil' furnaces with furnaces that burn used oil. To supply the used oil furnaces, they started to collect used oil from other sources.
- Typically the owners of used oil storage tanks, charge collectors for the used oil that they collect, but sometimes the oil is available free of charge to collectors.
- Filters that are handled by Superior Sanitation are typically sent to PEI Energy Systems for incineration.
- Used oil containers are deemed to be refuse through the Waste-Watch program, and are sent for incineration at PEI Energy Systems in Charlottetown.



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