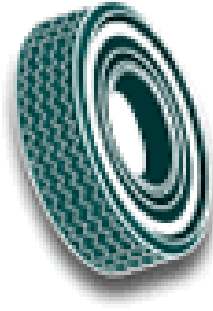


# Ontario Tire Recycling and Economic Development (OnTRED) plan

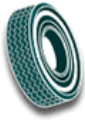


*A market approach to eliminating tire stockpiles and promoting recycled rubber product manufacturing in Ontario*

May 2005

Submitted by:

**The Ontario Tire Collectors Association  
and  
The Ontario Tire Dealers Association**



## EXECUTIVE SUMMARY

### Why the OnTRED plan?

OnTRED (Ontario Tire Recycling and Economic Development plan) was developed as an alternative approach to Ontario Tire Stewardship's (OTS) Scrap Tire Diversion Program Plan which is currently under consideration by the Ontario Minister of Environment. As we noted in our submission to the Ontario Environmental Bill of Rights process, OTS's The Scrap Tire Diversion Program Plan has many serious deficiencies. Specifically, the OTS plan:

- Promotes burning of scrap tires contrary to the Waste Diversion Act;
- Unfairly and unduly affects the Ontario retail tire market and scrap tire collection market with no betterment of the environment;
- Transfers the financial responsibility for scrap tire management from manufacturers (producers) to retailers, contrary to instructions from the Minister of Environment, and inconsistent with the principles of extended producer responsibility;
- Achieves no measurable diversion improvement from status quo and likely will worsen the tire stockpile issue in Ontario;
- Has ineffective provisions for promoting the reuse and recycling of scrap tires and negligible incentives for developing recycled rubber product markets; and
- Will result in a consumer fee scheme that is effectively a tax - a mechanism to allow manufacturers to absolve themselves of their financial responsibilities rather than a system of economic incentives to promote reuse and recycling.
- Will not be supported by tire retailers or waste haulers – the backbone of their system

### OnTRED's basis and objectives

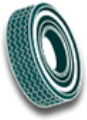
In his April 19<sup>th</sup> 2004 remarks to the Ontario legislature on *Building a Culture of Conservation* the Honourable Dalton McGuinty, Premier of Ontario made the following statement,

*“A culture of conservation will help Ontario build a high-skills, high-tech, high-performance economy by rewarding and encouraging innovation. This, in turn, will help stimulate investment, create jobs and build a stronger, more sustainable economy. And an economy we can be proud of.”*

Such an opportunity for innovation exists in the recovery, reuse and recycling of scrap tires. Through a well-crafted tire recycling and economic development program it is possible to meet the following objectives:

1. Improve the current 87% recovery rate for passenger scrap tires in Ontario and begin to address the recovery of scrap industrial and agricultural tires as well;
2. Prevent the formation of ANY new tire stockpiles in Ontario and encourage the elimination of existing ones by assigning and tracking exchanges of scrap tires and associated liability from generator to collector to final disposition; and





3. Reward and encourage innovation and, "...help stimulate investment, create jobs and build a stronger, more sustainable economy.", by providing consumers of rubber products a direct financial incentive to buy products with Ontario recycled rubber content.

Moreover we feel the basis of such a program is a highly focused approach that assigns appropriate responsibilities and provides meaningful incentives to each player within the new tire and scrap tire market to ensure that the three objectives listed above are met.

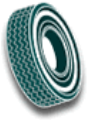
### **Criteria and considerations for developing the OnTRED program**

In designing OnTRED we have ensured that:

1. It is environmentally effective: Ensuring that OnTRED promotes reuse and recycling consistent with provisions of the Waste Diversion Act;
2. It is economically efficient. A minimalist approach to regulation that enhances rather than disrupts the existing workings of the tire and scrap tire market - a program maximizes environmental and economic benefit through promotion of reuse and recycling at least cost to consumers;
3. Minimizes administration and compliance costs;
4. Generates fewest unintended effects on competition, consumer prices, trade patterns etc.;
5. Maximizes communication and education to tire consumers and offers an incentive to promote recycling by buying "recycled"; and
6. It is dynamic and drives innovation and economic development in tire reuse and recycling over time.

Further to the criteria above we have also taken into account the fact that OnTRED is going to be layered onto an existing dynamic and competitive market place for the sale, take-back, collection, reuse, processing and end-use of scrap tires. Ontario's 87% scrap tire diversion rate indicates that insofar as tire recovery is concerned, the status quo is working. However, given the disposition of collected tires in Ontario it can be improved meaningfully through focused improvement in patterns of reuse and recycling.

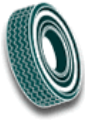




## Table of Contents

Program Summary - Ontario Tire Recycling and Economic Development (OnTRED) .....	5
Market Development - Buy-Recycled Rebates.....	8
Collector Registration and Transaction Tracking.....	10
Brandowner and First Importer pay-in model .....	10
Stakeholder Roles and Responsibilities .....	11
Budget Scenario .....	12
Rebate and Diversion Scenario .....	13





## Ontario Tire Recycling and Economic Development (OnTRED) plan

### A market approach to eliminating tire stockpiles and promoting recycled rubber product manufacturing in Ontario

#### Overview

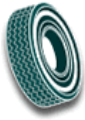
The OnTRED plan meets all the requirements of the Minister of Environment's program request of March 2003. Specifically:

1. It is consistent with WDO principles by designating stewards as Tire brand owners and first importers.
2. It can easily be expanded to include "off the road" tires as well as other non-highway vehicle tires;
3. It proposes to assess, remediate and monitor Ontario scrap tire piles;
4. It supports research and development activities that encourage effective and efficient use of used tire diversion;
5. It promotes recycled-content products using end user financial rebates that will result in tire diversion;
6. It provides funding to support promotion and educational activities;
7. It provides a registration and monitoring program which will:
  - a. track the number of tires sold, generated and diverted;
  - b. track the methods of diversion and specified applications; and
  - c. maintain an up-to-date list of operators of reuse, retread, and recycling facilities in place.
8. It will receive support from tire retailers and waste haulers; and
9. It will cost consumers less.

OnTRED recognizes that Ontario currently maintains a highly dynamic and competitive market place for the sale, take-back, collection, reuse, processing and end-use of scrap tires. Ontario's current 87% scrap tire diversion rate (including TDF) indicates that status quo is working, but can be improved. OnTRED aims to bring gradual and continual improvement to the existing Ontario tire diversion process by seeking ways to improve the quality and effectiveness of its various program elements. This requires an understanding of what the problem issues are around the status quo system of tire collection and diversion in Ontario. Based on the findings of stakeholder consultation undertaken by Ontario Tire Stewardship OnTRED is focused on meeting the following objectives:

1. Improve the current 87% recovery rate for passenger scrap tires in Ontario and begin to address the recovery of scrap industrial and agricultural tires as well;
2. Prevent the formation of ANY new tire stockpiles in Ontario and remediation of existing scrap piles by assigning associated liability from generator to collector to final disposition; and
3. Reward and encourage innovation and, "...help stimulate investment, create jobs and build a stronger, more sustainable economy.", by providing end users of rubber products a direct financial incentive to buy Ontario products with recycled rubber content.





OnTRED has 4 major components that are designed to work synergistically:

## **1. Market Development – Consumer-based buy-recycled rebates**

OnTRED involves a system of consumer rebates on products containing Ontario recycled rubber content. This approach is premised on a proven approach of using economic instruments for environmental protection and market development. Simply stated, making recycled products cost effective for the consumer drives demand for those products, which in turn boosts activity throughout the existing collection and recycling market.

The program's rebate model is similar to provincial or state programs that provide rebates on sales of energy efficient appliances. Rebate amounts are set based on the weight of recycled content in a product, and the relative value of that product. Rebates will be awarded to any purchasers of products - governments, tire manufacturers, builders, home consumers, industry, institutions etc.

For example, municipalities that purchase rubberized asphalt pavement will receive a buy-recycled rebate of about \$621 per km of a paved lane road. Also, tire brandowners that use 10% recycled crumb rubber in the manufacture of new tires will receive a buy-recycled rebate of \$.25 per tire manufactured.

Manufacturers / Processors of recycled-content products will register annually with the operating agency and will be placed on an Ontario "buy-recycled" list of rebate-eligible products. Eligibility will be based primarily on the manufacturer's proof that the product contains recycled rubber or scrap tires from Ontario generators or processors.

An allocation for research and development will be determined by OnTRED based on the greatest diversion opportunity for funds invested. For example, in year one of the program, \$1.2M is budgeted for the purchase mobile equipment for rubberized asphalt (heater and blender). R&D spending will be budgeted based on need, annually.

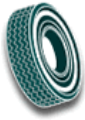
OnTRED education and awareness material will be primarily distributed through the vast network of Ontario tire dealers. In addition, it is anticipated that manufacturers of buy-recycled eligible products will also use education and awareness materials to further increase their own sales. Education and awareness materials will be produced and distributed by OnTRED on a regular basis. A buy-recycled products guide will also be produced annually and available on-line.

## **2. Collector registration and scrap tire tracking**

Currently retailers accept scrap tires from consumers for a fee, which are transferred to collectors via commercial arrangements. Stockpiles occur because some select retailers choose to use collectors that do not have a legitimate destination for tires and therefore charge below market prices for tire collection. This results in tire dumping.

Addressing this market failure is rather simple. Tire collectors should be accredited and approved by the Government of Ontario to be able to collect tires and register with OnTRED. Tire generators should be required to enter into commercial arrangements with only registered collectors and to make the existence of those agreements verifiable to OnTRED and the MOE. Additionally, the details of collector /





generator transactions (pick-up, transport and deliveries) should be available for MOE scrutiny in order to be able to track where tires were shipped after collection.

This system of assigning and tracking liability for waste has proven to be extremely successful in ensuring that hazardous waste is not illegally disposed of and is responsible for Ontario having a 78% recovery rate for used motor oil - the highest recovery rate in Canada.

### **3. Stockpile inventory, moratorium and remediation program**

OnTRED proposes an immediate landfill ban on tires, and an inventory of private and public tire piles in Ontario.

#### *Private Stockpiles*

In addition and consistent with the polluter pays principle, landowners with existing tire piles should be required to clean up their properties under the Environmental Protection Act. All private tire piles will be cleaned up within 5 years. OnTRED will work with the Ministry of Environment to ensure that landowners remediate tire piles in a timely manner using program-registered tire collectors. Funds will be budgeted every year (for 5 years) as a “contingency” fund used only when the Ministry is unsuccessful in forcing landowners to pay, or in using the revenues from the sale of the property to fund the stockpile clean-up.

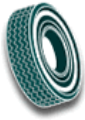
#### *Public Stockpiles*

The Association of Municipalities of Ontario (AMO) is currently determining the size and location of scrap tire plies in Ontario. This information will be used to determine which tire piles require immediate remediation. OnTRED will offer municipalities a one-time subsidy to help finance tire pile remediation. The subsidy level can only be determined once the municipal tire pile inventory is complete. Subsidies will largely depend on the size of the piles and their location.

### **4. Brandowner and first importer responsibility for promoting recycling**

Funds used for rebates, market development, R&D, collector registration, program monitoring and administration should be funded by brandowners and first importers of tires. These stewards have the ability to significantly impact the design of tires (i.e. through inclusion of recycled content in new tires). Moreover, and consistent with the principles of Extended Producer Responsibility, brand-owners should be promoting recycling as an end-of-life use for their scrap tires by providing the funds that will provide consumers with the financial incentive to “buy recycled” when they buy rubber products.



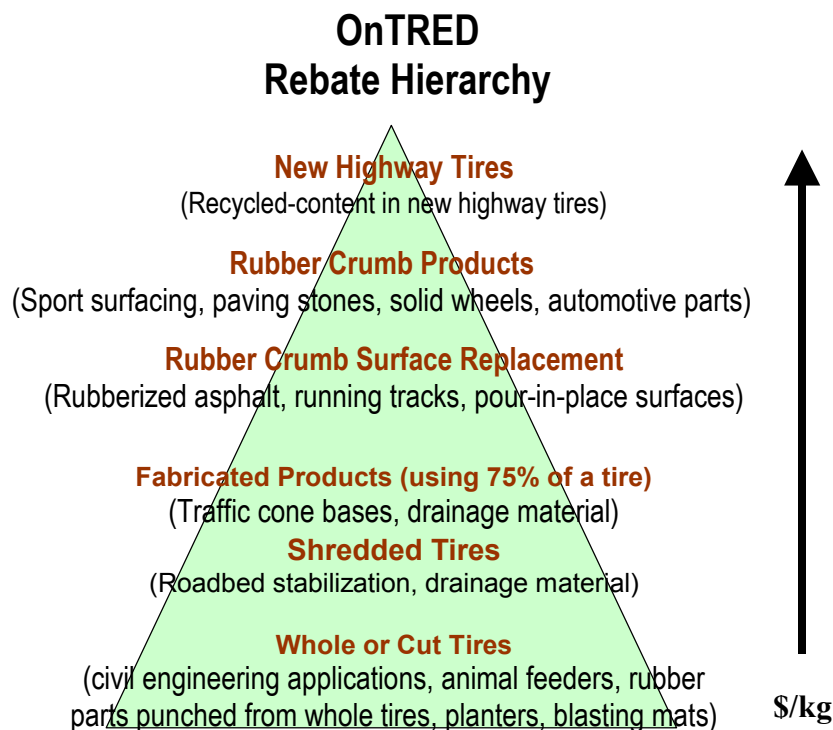


# OnTRED Market Development

## Buy-Recycled Rebates

OnTRED is founded on the idea that increasing demand for scrap tires and scrap tire rubber will necessitate the increase of supply. By offering a financial incentive to the final buyer in the form of a product rebate, demand will increase, and the existing collection and recycling market will adapt (increase supply) naturally and competitively.

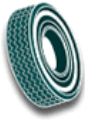
In doing so, it is important to understand the scope of “products” that can utilize recycled scrap tires. Products with a higher inherent value will require a relatively higher rebate per kg of scrap tire rubber used. Accordingly, rebates will be based on a recycling hierarchy as illustrated in the figure below.



OnTRED will issue rebates upon proof of purchase (sales receipt) of a certified product from the buy-recycled product list.

**Re-treaded tires** involve reuse. Under OnTRED manufacturers of re-treaded tires - tire reuse - will be exempt from paying any fees into OnTRED to promote recycling.





**Recycled-content highway tire manufacturing** using 10% crumb rubber should be considered as a priority end-use in Ontario. 10% recycled-content in all Ontario sold tires would represent a 10% diversion increase<sup>1</sup>. As such, tire manufacturers (in this case as opposed to consumers) will be offered a \$.25/kg rebate for Ontario crumb rubber used in the production of new tires. Consistent with extended producer responsibility, this rebate provides a producer incentive for design for environment.



**Crumb Rubber Products** manufactured from Ontario scrap tires can have a significant impact on tire diversion. These products include ground cover under playground equipment; running track material; sports and playing fields as a soil additive, horse arena flooring, molded carpet underlay, flooring material, roofing tile, dock bumpers, patio decks, railroad crossing blocks, livestock mats, roof walkway pads, rubber tiles and bricks, movable speed bumps; brake pads and brake shoes; additives for injection molded and extruded plastics; automotive parts and agricultural and horticultural applications/soil amendments.



OnTRED will offer rebates to all purchasers of program registered buy-recycled products. Based on the budget scenario offered in this paper, the rebates for crumb rubber products will vary based on high value or low value - \$.15/kg to \$.22/kg of recycled-content.



**Rubberized Asphalt** is one of the most noteworthy opportunities for market development in Ontario. Rubberized asphalt has significant benefits, which include: longer lasting road surfaces, reduced road maintenance, cost effectiveness over the long term, lower road noise, and shorter breaking distances. Due to the flexibility and strength of rubberized asphalt, only half the material is required when compared to regular asphalt concrete. With a utilization rate of about 1242 scrap tires per lane km<sup>2</sup>, the cost effectiveness of rubberized asphalt in terms of diversion per dollar is significant. As such, OnTRED's focus is on stimulating this market through a two-fold financing approach. First the OnTRED budget includes an initial research and development capital acquisition subsidy of \$1.2M for the purchase of mobile equipment required to process on-site rubberized asphalt<sup>3</sup>. Second, OnTRED will offer public or private purchasers of rubberized asphalt a buy-recycled rebate of \$50 per tonne diverted (\$.05/kg).



**Fabricated products** using shredded, cut or whole tires are effective ways of utilizing large amounts of scrap tires for low cost. These applications will receive smaller rebates based on the value of the finished product.



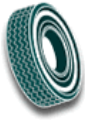
Rebates will not be offered on **tire derived fuel** applications.

<sup>1</sup> Based on the assumption that the average tire weights about 10kg. 1kg per tire is equivalent to 10% diversion of 13.9million tires generated annually.

<sup>2</sup> Source: Rubber Pavements Association, USA: <http://www.rubberpavements.org/> - based on a 2-inch thick overlay of hot mix.

<sup>3</sup> A mobile heater and blender units is required to facilitate on-site production of rubberized asphalt. Capital cost for the purchase of this equipment is estimated at about \$1M \$US or \$1.2M \$CAN.





## **Collector Registration and Transaction Tracking**

Instituting tire collector standards and registering tire collectors with OnTRED will ensure fair competition in the market place while eliminating occurrences of illegal tire dumping. Such a system of assigning and tracking responsibility and liability for waste has been proven to work with regard to hazardous waste in Ontario.

OnTRED will administer an Ontario collector registration program, whereby collectors will be required to meet all government approvals and participate in a tracking program with regular reporting on:

- the number tires and weight of tires collected, transferred and delivered;
- the generator (retailer/dealer, municipality, or other collector); and
- the end-use (processor, re-manufacturer, TDF user).

Through the backdrop regulation, generators will be required to contract collection services with registered collectors only.

Collectors will be required to update their registration bi-annually.

## **Stockpile inventory, moratorium and remediation program**

The backdrop regulation will call for an immediate landfill ban on tires. In addition, OnTRED will begin to compile an inventory of private and public tire piles in Ontario. This information will be used to prioritize a clean-up strategy.

Landowners with existing tire piles will be required to clean up their properties under the Environmental Protection Act. The Ministry may be required to support this effort through other regulatory mechanisms.

OnTRED will continually monitor any occurrences of stockpiling tires via a toll free long-in line and their web site.

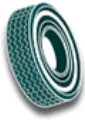
Municipalities will be offered clean-up subsidies for existing piles. Some municipalities will also be offered match funding used for “amnesty days” where residents with tires may drop them off without charge.

## **Brandowner and first Importer pay-in model**

Program stewards will be defined as brand owners and first importers of new tires that are sold into Ontario. More specifically, fees payable shall be applicable to tires produced, or arriving into the province, and which are for sale in the province.

Stewards will be required to report to OnTRED Ontario sales by weight of product sold into the Ontario market place based on the previous year’s sales. Stewards will report and pay levies based on sales on a quarterly basis. Stewards will also be eligible for rebates based on the amount of rubber purchased for use in the tire that they manufacture.





## **Stakeholder Roles and Responsibilities**

### **Brandowners**

- Remit confidential quarterly reports to OnTRED with weight in kg of tires sold for sale into the Ontario marketplace; and
- Submit levies based on sales to OnTRED.

### **Retailers/Dealers**

- Provide rebate information to customers purchasing tires with recycled content; and
- Provide educational material to customers on tire reduction, reuse and recycling.

### **Retailers/Dealers, Municipalities, Auto Recyclers**

- Take-back tires from customers/residents;
- Storage of tires must meet government safety standards; and
- Arrange pick-up of scrap tires on commercial terms with Ontario approved and OnTRED; registered collectors only.

### **Collectors**

- Register with OnTRED; and
- Provide OnTRED and MOE scrap tire shipment data on request.

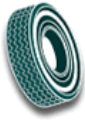
### **OnTRED**

- Collect levies from tire brandowners;
- Administer and monitor collector registration;
- Approve products for rebate program & prepare “buy-recycled” product guide;
- Set rebate amounts based on product hierarchy;
- Operate rebate program;
- Produce education material and distribute to retailers/dealers;
- Fund R&D projects for further market development; and
- Inventory / assess and manage stockpile remediation program.

### **Provincial Government**

- Ban scrap tires from landfill;
- Where necessary - enforce stockpile clean-ups;
- Approve tire collectors;
- Support OnTRED through monitoring of collectors; and
- Oversee OnTRED





## Budget Scenario

Budgets will be developed and adjusted based on previous year's activities. In all likelihood, surpluses or deficits will result every year due to the difficulty in precisely understanding the expenses, which will be incurred through the rebate program. As such, surplus and deficit amounts will be rolled into the following year's budget as new revenue or new expenses respectively. With this in mind, stewards can expect their levy to change (increase or decrease) yearly.

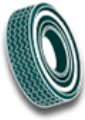
The following is a budget and rebate scenario based on basic program development as outlined in this paper. They represent only one scenario provided to illustrate how the program can work.

### A Budget Scenario

BUDGET		
<b>REVENUES</b>		
Stewards levy		\$ 16,530,000
<b>EXPENSES</b>		
Rebates	79%	\$ 13,000,000
Promotion and Education	3%	\$ 500,000
R&D (Capital grants)	7%	\$ 1,230,000
Municipal Amenity Days/ pile remediation	3%	\$ 500,000
Stockpile redediation contingency fund	2%	\$ 300,000
Monitoring / Fee collection	3%	\$ 500,000
Administration	3%	\$ 500,000
<b>TOTAL</b>	<b>100%</b>	<b>\$ 16,530,000</b>

Steward Levy	
Stewards levy per kg sold	\$ 0.119
Steward levy per tire (based on an average tire weight of 10kg)	\$ 1.19





## Rebate and Diversion Scenario

**74% diversion through 3Rs**

Diversion (End-Use)	Status Quo (tonnes)	Scrap Tire Diversion	OnTRED (tonnes)	OnTRED kgs diverted	Buy-Recycled Rebates	Rebate per kg of recycled content
Crumb content (new tires)	52,850	1%	2,000	2,000,000	\$ 500,000	\$ 0.25
Ground rubber products (high value)		20%	30,000	30,000,000	\$ 6,600,000	\$ 0.22
Ground rubber products (low value)		25%	37,000	37,000,000	\$ 5,550,000	\$ 0.15
Rubberized asphalt		4%	6,000	6,000,000	\$ 300,000	\$ 0.05
Fabricated products	8,000	7%	11,000	11,000,000	\$ 330,000	\$ 0.03
Civil Engineering	8,000	7%	11,000	11,000,000	\$ 220,000	\$ 0.02
Export usable tire	12,000	8%	12,000	12,000,000	\$ -	\$ -
Disposal(TDF, landfill, stockpile)	55,200	26%	38,000	38,000,000	\$ -	\$ -
<b>TOTAL</b>	<b>136,050</b>	<b>100%</b>	<b>147,000</b>	<b>147,000,000</b>	<b>13,000,000</b>	

