

Tire Stewardship BC

Annual Report to the Director

2012

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Tire Stewardship BC

Annual Report to the Director

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1. Executive Summary

Products within plan	Tires
Program website	www.tsbc.ca

Recycling Regulation Reference	Topic	TSBC – 2012 Summary Report
Part 2, section 8(2)(a)	Public Education Materials and Strategies	<ul style="list-style-type: none"> • TSBC continued its strong educational campaign through printed materials, media coverage, sponsorships, and directly to the public at Tire Round-Up events held across the province. Key achievements included: <ul style="list-style-type: none"> • television coverage promoting the milestone of recycling 60 million BC scrap tires to date; • continuing the Community Grant Program to incent the use of BC rubber in qualified projects across the province (38 in 2012); • sponsoring Victoria’s Bike to Work Week and ensuring a high profile at related events; and • completing a consumer survey to determine awareness.
Part 2, section 8(2)(b)	Collection System and Facilities	<ul style="list-style-type: none"> • As in previous years, TSBC offered options to the public beyond the acceptance of their replaced tires through BC retailers when they purchase new ones. Tires not left with the retailer, known as “orphan” tires, were also captured through: <ul style="list-style-type: none"> • Return to Retailer (R2R) program, through which 449 retailers currently accept up to 4 tires from each member of the public; and • Tire Round-Up events held around the province (11 in 2012). • Scrap tires from other registered sites such as auto wreckers, small auto body shops and garages were also collected by haulers for the program.
Part 2, section 8(2)(c)	Product Environmental Impact Reduction, Reusability and Recyclability	<ul style="list-style-type: none"> • Reduction initiatives focused on educating the public on extending the life of tires to keep them out of the waste stream as long as possible. • Reusability of tires continued to be realized through “culling” of good used tires for re-use. • Recyclability enhancements remain challenging, given the durable structure of a tire, designed to ensure safety and a long road life.
Part 2, section 8(2)(d)	Pollution Prevention Hierarchy and Product / Component Management	<ul style="list-style-type: none"> • TSBC has always incented the 3R (recycling) options over 4R (energy recovery) options through the financial incentive rates offered for each. • To more accurately report against the Pollution Prevention hierarchy, in 2012, TSBC also began separating out the 5R (residual disposal)

Recycling Regulation Reference	Topic	TSBC – 2012 Summary Report
		<p>volumes that were previously included within the volumes reported for each of 3R and 4R, whichever use the residuals occurred from.</p> <ul style="list-style-type: none"> In 2012, 3R uses represented 77% of the total tonnes processed.
Part 2, section 8(2)(e) Part 2, section 8(2)(e.1)	Product Sold and Collected and Recovery Rate	<ul style="list-style-type: none"> The 2012 “Recovery Rate,” applying the calculation recommended by the BC Recycling Regulation, was 80% across all regulated tire types. See Appendix B for a copy of the Audit Report. The “Collection Rate,” however, continues to be 100% and is more indicative of TSBC’s true performance based on the tires actually available for collection, as explained in Section 7. <hr/> <ul style="list-style-type: none"> See Section 7 for breakdown of collection per Regional District.
Part 2, section 8(2)(f)	Summary of Deposits, Refunds, Revenues and Expenses	<ul style="list-style-type: none"> See Section 8 for the reference to TSBC’s independently audited financial statements, which are included as Appendix A to this report. Note that for the fifth consecutive year, the Advance Disposal Fee rates remain unchanged.

Performance Targets (as agreed with Ministry)	Performance	Remediation Strategies (if requirement or target not met)
1. Report total tonnes collected broken down by Regional District	Please see Appendix C for a breakdown of scrap tire collection volumes by tonne in each Regional District	N/A
2. a) 84% <u>Recovery Rate</u> (Total # Units Collected / Total # units sold) b) Approximately 100% <u>Collection Rate</u> (Total # Units Collected / Total # Units Available For Collection)	80% Recovery Rate Approximately 100% Collection Rate	a) Please see Section 7 for an explanation of the variance and Appendix B for a copy of the Audit Report. b) N/A – no unmet demand for scrap tire collection

Performance Targets (as agreed with Ministry)	Performance	Remediation Strategies (if requirement or target not met)
<p>3. Breakdown of total tonnes processed:</p> <p>a) 3R – 71%</p> <p>b) 4R – 21%</p> <p>c) 5R (Residual) – 7%</p> <p>d) 5R (Off Spec) – 1%</p>	<p>a) 77% – 3R (rubber and steel recycled into products)</p> <p>b) 14.5% – 4R (rubber and fibre for energy recovery)</p> <p>c) 7% – 5R (residuals and fibre from 3R process landfilled)</p> <p>d) 1.5% – 5R (landfill of off spec regulated tires that cannot currently be processed into 3R or 4R)</p>	<p>4R: Anomaly year due to periodic shutdowns of the kiln.</p> <p>5R: Fibre that cannot be sold to market is landfilled.</p> <p>5R: Effective August 2012, the processor was able to process some Off Spec tires. In 2013, only a small portion of program tires are still unable to be processed.</p>
<p>4. 1,700 collection sites</p> <p>Collection site is defined as a retailer that in normal course of business will take back one scrap tire for every new tire sold.</p>	<p>1,733 collection sites</p>	<p>Please see Section 4 for a detailed explanation and Appendix B for a copy of the Audit Report.</p>
<p>5. a) 500 Return to Retailer (R2R) locations</p> <p>b) 2 Return to Retailer (R2R) locations per Regional District</p>	<p>449 R2R locations</p> <p>Central Coast is the only Regional District with less than 2 R2Rs</p>	<p>Increasing the number of R2Rs is a focus in 2013, including R2R recruitment as part of the Ambassador Tour activities</p> <p>This Regional District has only 2 registered retailers in the area.</p>

Performance Targets (as agreed with Ministry)	Performance	Remediation Strategies (if requirement or target not met)
6. 15 collection events	11 collection events	15 collection events in 2012 were offered but only 11 locations were willing to host the event. In 2013, TSBC has scheduled 15+ events with the majority held prior to June 30.
7. Report on measures taken to reduce abandoned waste	Submitted - please see Appendix E	N/A
8. Less than 24 legitimate collection complaints from retailers and generators	7 legitimate collection complaints received <ul style="list-style-type: none"> • This equates to 0.21% of the 3,260 registered retailer and scrap tire generator sites and substantiates the Collection Rate result of ~100% (please see Section 7) 	N/A
9. Less than 12 consumer complaints	3 complaints received: <ul style="list-style-type: none"> • lack of free disposal options for tire on rims • poor driving by scrap tire hauler • perceived egregious profits earned by stewardship programs in general 	N/A
10. Under \$5 / PTE* program cost *Passenger Tire Equivalent	\$5.01 / PTE	2012 was an anomaly year. Exceptionally high demand for TDP required the processor to draw down its inventory significantly resulting in higher than normal processing incentive costs. In 2013 the \$/PTE is expected to return to below \$5 without TSBC intervention.

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Performance Targets (as agreed with Ministry)	Performance	Remediation Strategies (if requirement or target not met)
11. To ensure program stability, no less than 6 months of operational cost in reserve	As of December 31, 2012, TSBC had approximately 7 months of current operational cost in reserve	N/A
12. At least one update to the GHG inventory report between 2013 and 2017	No report planned or conducted in 2012	N/A
13. Delivery of OTR Processing Options Report to Ministry by July 1, 2013	Submitted - please see Appendix D	N/A

2. Program Outline

TIRE STEWARDSHIP BC ASSOCIATION (TSBC) is a not-for-profit society responsible for operating BC's scrap tire recycling program in accordance with its Ministry of Environment approved Tire Stewardship Plan and the [BC Recycling Regulation](#).

The society is governed by a Board comprised of [seven directors](#) representing the following member organizations:

- Retail Council of Canada;
- Western Canada Tire Dealers Association;
- The Rubber Association of Canada; and
- New Car Dealers Association of BC.

TSBC is accountable to its stakeholders and the public for the collection, processing and environmentally sound disposal of all scrap tires designated under the [BC Recycling Regulation](#).

TSBC collects an eco fee on the sale of every new tire from TSBC registered retailers in addition to tires on vehicles imported from the United States. The eco fee rates are set by TSBC and vary based on tire size and category. 100% of the fees collected are applied to the operation of the program, including transportation and processing of the tires, program administration, communication and education, community grants, as well as a reserve fund. In 2012, of the \$17.5M collected in eco fees, \$16.2M was paid out in Transportation, Processing and Manufacturing Incentives and \$650,000 in grants to 38 communities throughout BC.

TSBC operates a retail based collection system. The majority of consumers leave their scrap tires at the retailer location when purchasing new tires. These tires are collected on a regular basis by haulers that transport the tires to three processing sites in BC, two in Delta and one on Vancouver Island. Some motorists chose to take their scrap tires home for scrap tire disposal at a later date. TSBC refers to these tires as "orphan tires" and offers the consumer two free disposal options: up to 15 collection events throughout the year and/or drop off at Return to Retailer (R2R) locations. In addition 449 Return to Retailer locations throughout BC accept up to 4 car tires, clean and off-rim, from the public. TSBC publishes the [collection events and R2R locations](#) on its web site. The R2R location information is also available through the Recycling Council of BC's [Recyclepedia](#) online tool.

After tires are collected, the majority are recycled into products with the remainder used as a fuel supplement. The products created are coloured landscaping mulch and crumb rubber. The crumb rubber is processed into new products such as playground surfaces, tiles, arena flooring and agricultural mats. With the introduction of a Manufacturing Incentive, the [Community Grant Program](#) and the new landscaping mulch product, TSBC is pleased to report that the volume of BC rubber sold as product into BC markets since 2010 has more than doubled.

In 2012, TSBC continued to operate under its [2007 to 2011 Stewardship Plan](#) as the updated Plan still awaited approval. In the updated Plan, TSBC set several new performance measures and targets and at the direction of the Ministry of Environment, has agreed to report against these new targets in the 2012 Annual Report. Not only are these targets more aligned with the Ministry's requirements, they more accurately reflect the activities of TSBC.

3. Public Education Materials and Strategies

TSBC focuses its stakeholder outreach on a broad education and communications campaign, raising consumer awareness on "where the money goes" and "where the tires go." In 2012, communication methods included the initiatives below.

Tire collection events

TSBC participated in and provided funding for 11 collection events in 2012. The events were either voluntarily hosted by tire retailers or Regional Districts. Media outreach for these events resulted in coverage in six community newspapers, a special feature on CHBC TV News in the Okanagan, and radio interviews. TSBC uses the Round-Ups as an opportunity to hand out tire gauges to promote proper tire maintenance which extends the life of a tire and saves fuel which reduces GHG. The public are also provided with fridge magnets which promote the [Return to Retailer](#) program and let people know they can dispose of their orphan tires at an R2R location in their area rather than abandoning them in the urban or rural landscape or taking them to landfill, possibly for an additional charge.

Community Grant Program

The [Community Grant Program](#) provides matching funds up to a maximum of \$30,000 per project to not-for-profit organizations, schools, municipalities, etc., that use BC recycled rubber. This program not only benefits the communities but is an excellent means of getting the word out on "what happens to the tires and what happens to the money". The ability to showcase tire recycled products throughout BC is invaluable. In 2012, grants were awarded to 38 communities throughout BC, which used 1.5 million lbs of BC rubber for playground and spray park surfaces, recreational flooring, pathways and outdoor fitness area projects. The Community Grant Program was featured in community papers across the province and 24 online media outlets, reaching thousands of readers in each corner of BC. Through ongoing communication with grant recipients, TSBC's media firm also ensured the placement of [onsite signage](#) to officially recognize TSBC as a contributor to these important projects.

Sponsorship events

As a sponsor of the 2012 [Victoria Bike to Work Week](#), TSBC was invited to participate in the launch of the event which was attended by the Victoria Mayor, Minister of the Environment, local MLAs, local media and cyclists. TSBC provided tire gauges and displayed samples of coloured landscaping mulch made from recycled bicycle and car tires. At two events during Bike to Work Week, TSBC had the opportunity to interact directly with the public and hand out tire gauges, TSBC brochures, and information on the Community Grant Program.

Promotional material

- Brochure: In 2012, TSBC redesigned its brochure which was distributed to all tire retailers in the province.
- Tire Retailer Postcard: TSBC also created a postcard for the “staff room” at retailer sites to help staff understand and be able to respond to consumer inquiries on “*where do the tires go?*” and “*where does the money go?*” TSBC used the opportunity to emphasize that the eco fee is not a government tax.
- Video: In 2012, TSBC started a project to create a short and engaging animated video for display at retailer sites, tradeshow, and on the TSBC and other stakeholder web sites. Another two videos will be created, one focusing on the eco fee and the other on innovation. TSBC expects the project to complete by June 2013.
- Fridge Magnets: To assist in getting the word out about Return to Retailer locations, TSBC provides fridge magnets with R2R messaging at collection and community events.

Partnerships

TSBC is pleased to report that in 2013 it is partnering with the BC Used Oil Management Association in its 8th annual [Ambassador Program](#). This program will allow TSBC to provide outreach to over 300 tire retailers, many of the Regional Districts, the media and the public through community events across the province.

Web site

The [TSBC web site](#) received over 32,000 visits in 2012 with two thirds being unique visitors. The web site is designed to provide information to two main stakeholder groups: registered participants and the public. For the public, the web site includes information on:

- Program tires;
- Collection sites, i.e. Return to Retailer locations and Round-Ups;
- Community Grant Program;
- Tire recycled products; and
- Annual reports.

RCBC Hotline and Recyclepedia

As in prior years, TSBC contributed funding to the [Recycling Council of BC](#) to operate the [Recycling Hotline](#), its [Recyclepedia](#) online tool and [Smart Phone App](#). These tools are excellent resources for the consumer, particularly for information on tire drop off locations.

60 Millionth Tire campaign

When TSBC reached its 60 millionth recycled tire, through its media relations firm, TSBC conducted an earned media outreach campaign aimed at garnering attention for the organization as well as the different products resulting from recycled tires. Detailed [stories](#) were broadcast on both Global TV and CTV2, which is based on Vancouver Island but also airs across the lower mainland.

Print media

TSBC advertised in a select number of print media, such as the Recycling Report insert in the Vancouver Sun newspaper.

Consumer survey

In June 2012, TSBC commissioned Ipsos Reid to carry out an online omnibus survey of 800 people regarding tire eco fees, collection and disposal options. In summary, 57% of respondents were aware of the program, 62% were aware of the eco fee and the various disposal options, and 24% were aware of the Return to Retailer option for orphan tires.

4. Collection System and Facilities

As the tire program is a retailer based collection system, TSBC has historically defined a collection facility as a registered tire retailer location where consumers can drop off a scrap tire for every new tire purchased. However, for purposes of reporting on collection facilities in the Annual Report and as an auditable performance target, TSBC amended the definition to reflect that not all tire retailers are in a position to take back a scrap tire for every new tire sold. An example is Home Depot, which may sell a trailer with new tires even though their primary business is not selling tires or equipment with new tires. TSBC is therefore now defining a collection facility as *"a TSBC registered retailer that, in the normal course of business, will accept one scrap tire for every new tire sold."* The amendment to the definition has resulted in a change to the number of collection facilities from 2,260 in 2011 to 1,733 in 2012, reduced primarily by the number of retailers that in the normal course of business do not accept scrap tires from their customers.

Unlike other product stewardship programs where consumers must choose between putting their end-of-life product into the waste stream or taking it to a collection depot for recycling, most motorists exchange their old tires for new ones at the time of purchase. These tires are collected from the retailers by haulers, some of which sort and cull the good used tires for reuse, with the remainder transported to TSBC registered processors. The majority of scrap tires generated annually are picked up at tire retailer locations.

TSBC also collects scrap tires from other registered sites that generate scrap tires as part of their normal business operations, such as auto wreckers and small auto body shops and garages.

An estimated 6% of the total annual generation collected results from motorists who choose to take their old tires home rather than leave them with the retailer for disposal. Ultimately, most of these orphan tires end up at a landfill where they are held for collection by haulers. Recognizing this as a cost and logistical problem for some landfills, TSBC continues to work on providing alternative disposal options such as the Return to Retailer (R2R) program and tire Round-Up events. As of December 31 2012, TSBC had [449 R2R locations](#) that are registered retailers and have voluntarily agreed to accept up to 4 clean and off-rim car tires from the public. In addition to the TSBC web site, the list of R2R participants is available on [Recyclepedia](#).

TSBC also hosts province wide tire collection events where the public can drop off any tire size, on or off rim, at no charge. The 2012 events are shown in Table 1 below. While these events are successful in terms of diverting tires that might otherwise be abandoned in the rural or urban environments, they are costly to host. TSBC is working with the Steward Agencies of BC to potentially find more cost effective and efficient approaches.

Table 1 Collection Events – 2012

Date 2012	Facility	City
March 31	City of Ashcroft	Ashcroft
May 5	Regional District site	Golden
May 12	Canadian Tire	Williams Lake
May 12	Regional District	Salmon Arm
June 9	Fountain Tire	Victoria
August 12	KP Abernathy Ltd	Valemount
August 18	Kal Tire	Vernon
August 25	Kal Tire	Cranbrook
August 25	Regional District site	Abbotsford
August 26	Regional District site	Chilliwack
September 15	OK Tire	Trail

5. Product Environmental Impact Reduction, Reusability and Recyclability

TSBC and producers continue to seek opportunities to reduce the environmental impacts associated with the life cycle of a tire, and to increase its reusability at the end of that cycle.

Reduction

Recycling tires at their end-of-life is important, but lengthening their life so that fewer are used is essential – this is an area where both the motorist and industry can play a part. The life of a tire is significantly increased with proper tire maintenance, i.e. keeping tire pressure at the correct level. Tire manufacturers are making progress with the introduction of innovative tire lines specifically designed and constructed for low rolling resistance. Motorists can also play their part by ensuring tires are properly inflated and maintained. TSBC continues to work in partnership with The Rubber Association of Canada in their annual [Be Tire Smart](#) campaign which focuses on educating the motoring public on the benefits of proper tire inflation and maintenance. In 2012, TSBC participated in several TV and radio interviews during Be Tire Smart Week and handed out tire pressure gauges at all of its public events, including tire Round-Ups and sponsorship events.

Reusability

The “culling” of worn tires not yet at their end-of-life by scrap tire haulers has occurred since the program’s inception in 1991. Haulers either resell the used tires locally or export them to markets outside BC. In 2013, TSBC plans to gather data to estimate the volume of tires culled annually; however, industry estimates suggest that as many as 15% of the scrap tires generated annually are resold as used tires. The culled tires that stay in BC to service the used tire market will eventually enter the waste stream in BC.

Recyclability

TSBC’s ability to influence product design to increase recyclability is extremely limited. While an accepted and theoretically possible outcome in some industries, automotive tires are not simple consumer commodities. Instead, they are a critical element in the safe operation of motor vehicles. For this reason, the design and operating parameters of tires are mandated by federal regulation and international agreement. The things that make a tire "safe" also tend to be those that make it difficult to recycle. That said, the international tire manufacturers are responding to the environmental challenges of tire manufacturing by doing such things as replacing high aromatic petroleum based oils with bio-based oils from corn, canola, orange etc. In addition, manufacturers are beginning to incorporate recycled rubber into selected tire types and are actively investing in new sources of natural rubber supply such as guayule and Russian Dandelion, which can be produced in North America.

6. Pollution Prevention Hierarchy and Product / Component Management

TSBC manages collected products in accordance with the “pollution prevention hierarchy”, i.e., recycle (3R) before energy recovery (4R) before residual disposal (5R). TSBC incents the processing of scrap tires into higher value added products by providing higher financial incentives to recycle a tire than to use a tire for energy recovery. Beyond primary processing, TSBC promotes the use of BC’s recycled rubber in products manufactured in BC through a Manufacturing Incentive.

Consistent with the Ministry’s practice since 1991, TSBC tracks and reports on the annual ratio of 3R to 4R for the three tire components: rubber, steel and fibre. Past reporting on the 3R category included not only the rubber but the other components of the tire (steel and fibre), regardless of where these components were destined (energy recovery or landfill). Going forward, TSBC will report on the component volumes in each of the 3R, 4R and 5R categories, and these percentages will be audited starting with the 2013 data to meet Ministry requirements. In 2012, the classification of which components would be counted in each of the 3R, 4R and 5R categories was refined by TSBC in accordance with the Recycling Regulation Guide, April 2012 edition, as described below. Table 2, which follows these descriptions, provides the 2012 results based on the new categories.

3R Tire Derived Product (TDP)

This category includes the rubber component that has been recycled and sold to market. It does not include rubber that is in inventory at the processor’s site as a product for sale at a later date. Also

included is the steel and fibre. Only volumes of steel and fibre sold as a product to an end use market are included in this reporting category.

4R Tire Derived Fuel (TDF)

This category comprises the rubber, steel and fibre components of whole tires or shred, used for energy recovery. Volumes reported also include any fibre extracted in the recycling process that is sold to a kiln.

5R Residuals

Residuals include waste material from the recycling process (sweepings) and any fibre or steel that cannot be sold to a market and is ultimately disposed of at landfill.

5R Off Spec

This category includes [regulated tires](#) that cannot be processed such as Logger / Skidder Tires.

Table 2 Product Hierarchy Results – 2012

Category	% by weight	Description
3R (Tire Derived Product)	77%	Rubber: recycled into crumb rubber and subsequently used to create a variety of products including: athletic tracks; synthetic turf fields; playgrounds; colourful, resilient flooring in recreational facilities; and flooring and mats for agricultural and industrial use. The tires were also recycled into coloured landscaping mulch, a replacement for bark mulch. Steel: sold to a steel recycler.
4R (Tire Derived Fuel)	14.5%	Rubber, steel, fibre: primarily used for energy recovery in a BC cement kiln with the steel replacing the iron required to make the cement.
5R Residuals	7%	Material landfilled: waste component of the recycling process (sweepings) and fibre that could not be sold into market.
5R Off Spec	1.5%	Material landfilled: some large Agricultural Tires; all Logger / Skidder Tires and any other program tires that could not be processed. TSBC is pleased to report that with a few exceptions, all large Agricultural tires are now being processed and reported under 3R.

Restatement of historical reporting

The 2012 changes to the hierarchy reporting categories necessitate a restatement of the volumes reported in previous periods. For clarity, the “old” percentages (i.e., as reported in the 2007 to 2011 Annual Reports) are restated in the new categories in Table 3 and Table 4 respectively below.

Table 3 Hierarchy Reporting (as previously reported using old measures)

	2007	2008	2009	2010	2011	Average
3R	80%	70%	63%	71%	88%	74%
4R	20%	30%	37%	29%	12%	26%

Table 4 Hierarchy Reporting (as restated with new measures)

	2007	2008	2009	2010	2011	Average
3R	64%	56%	51%	53%	71%	59%
4R	29%	40%	42%	35%	20%	33%
5R	7%	4%	7%	12%	9%	8%

TSBC supports a mix of TDP and TDF end-use to ensure there is a market for all BC’s scrap tires and recycled tire products. This policy of allowing some tires to be used as a fuel supplement, in place since 1991, is economically and environmentally sound. It is a lower cost alternative, which helps TSBC contain eco fee levels, and all TDF usage has appropriate environmental permits.

TDF usage is market driven and varies from year to year. In 2012, TDF usage was at an all-time low at 14.5% due to economic conditions in the cement industry and a record high demand for TDP. However, increased use of tires for energy recovery can occur when TDP markets decline, such as the economic downturn in 2008 to 2010. TSBC anticipates further reduction in TDF usage when a TDP solution for the fibre component is developed (fibre is currently used as an energy supplement in a cement kiln).

7. Product Sold and Collected and Recovery Rate

The measure of effectiveness of stewardship programs recommended by the BC Recycling Regulation is the “Recovery Rate”, the actual number of scrap tires collected divided by the actual number of new tires sold. TSBC’s results for 2012 are summarized in Table 5 below.

Table 5 Product Sold and Recovery Rates – 2012

Tire category	Units Sold	Units collected and delivered to a processor	Recovery Rate
Passenger & Light Truck	2,999,767	2,370,926	79%
Medium Truck	259,016	231,523	89%
Large Agricultural	14,002	3,506	25%
Logger / Skidder	2,566	2,133	83%
Total	3,275,351	2,608,088	80%

Note: the Recovery Rate for the “Large Agricultural Tire” category is typically low as the life span of these tires is around 17 years, confirmed by a study conducted by Tire Stewardship Manitoba in 2009. Since 2007 the Recovery Rate in BC for these tires has ranged from 14% to 30%.

Annual Recovery Rates vary according to the number of new tires sold or scrapped in any year, both of which are sensitive to changes in BC’s economy, weather and population, all of which are outside of TSBC’s control. In addition, the timing of a sale of a new tire does not correspond directly with either the generation or the collection of a scrap tire. For example, the sale of a new car does not typically result in the generation of a scrap tire, and with new car sales being over 33% of annual tire sales, this can have a significant impact when comparing sales to collections.

Additional factors outside of TSBC’s influence must be taken into account to explain why the Recovery Rate may never approach 100% in a growing economy. The most significant factor is the export of partially worn tires not yet at their end-of-life to markets outside BC for reuse, never to return as scrap tires in BC. The more tires exported for reuse, the better the result, according to the Pollution Prevention Hierarchy (reduce, reuse, recycle, recover) – but the lower the Recovery Rate. Further, as the total number of vehicle registrations continue to increase with BC’s population and with the greater use of winter tires (and enforcement by police agencies on certain highways), there is an ever increasing number of tires “in use” or “in storage and ready for use” further reducing the number of scrap tires in BC.

TSBC does not support the Recovery Rate as the **sole** measure to assess the program’s effectiveness. As such, TSBC will also report the annual “Collection Rate”, the actual number of scrap tires collected / estimated number of scrap tires available for collection. The number of tires available for collection is explained below. TSBC believes both rates are required to properly describe its performance in this area.

The collection and transportation of scrap tires from source locations throughout BC to processors is well established, efficient and effective. Over TSBC’s five years of operation starting January 2007, the estimated Collection Rate has been 100%. This means that virtually 100% of the scrap tires available for collection at retailers or scrap tire generators (e.g., landfills and auto wreckers) were collected for recycling, energy recovery or reuse. There are no known stockpiles, and collection complaints by retailers, generators and consumers are extremely rare. This demonstrates the effectiveness of the collection system and TSBC’s confidence in the estimated number of scrap tires available for collection.

8. Summary of Deposits, Refunds, Revenues and Expenditures

The TSBC program is funded by an Advance Disposal Fee, commonly referred to as an eco fee. It is a condition of registration with TSBC that retailers remit the ADFs monthly for every new tire sold to cover the costs of the program, which are primarily the collection and processing of the scrap tires. Retailers may choose to pass the ADF on to the consumer.

The ADFs are set by TSBC and vary by tire type to adequately compensate for the higher costs of collecting and disposing of larger tires.

For the fifth consecutive year, the fees in 2012 for the different tire types remained at the rates shown in the Table 6 below.

Table 6 Advance Disposal Fees – 2012

Tire category	ADF per tire
Passenger & Light Truck (PLT)	\$5
Medium Truck (MT)	\$9
Agricultural Drive	\$15
Logger / Skidder	\$35

Other Off-the-Road (OTR) tires are excluded from the Recycling Regulation because there are currently very limited recycling solutions for these larger tires.

100% of fees collected are used for the operation of the scrap tire recycling program.

Program revenues and expenses are provided in TSBC’s 2012 independently audited financial statements, included as [Appendix A](#) and posted with this [Annual Report on TSBC’s website](#).

9. Plan Performance

In 2012, TSBC continued to operate under its [2007 to 2011 Stewardship Plan](#) as the updated Plan still awaited approval. In the updated Plan, TSBC set several new performance measures and targets and at the direction of the Ministry of Environment, has agreed to report against these new targets in the 2012 Annual Report. Not only are these targets more aligned with the Ministry’s requirements, they more accurately reflect the activities of TSBC.

Table 7 Plan Performance – 2012

Plan Target	2012 Results	Remediation Strategies (N/A if target met)
1. Report total tonnes collected broken down by Regional District	Please see Appendix C for a breakdown of scrap tire collection volumes by tonne in each Regional District	N/A

Plan Target	2012 Results	Remediation Strategies (N/A if target met)
<p>2. a) 84% <u>Recovery Rate</u> (Total # Units Collected / Total # units sold)</p> <p>b) Approximately 100% <u>Collection Rate</u> (Total # Units Collected / Total # Units Available For Collection)</p>	<p>80% Recovery Rate</p> <p>Approximately 100% Collection Rate</p>	<p>c) Please see Section 7 for an explanation of the variance and Appendix B for a copy of the Audit Report.</p> <p>d) N/A – no unmet demand for scrap tire collection</p>
<p>3. Breakdown of total tonnes processed:</p> <p>a) 3R – 71%</p> <p>b) 4R – 21%</p> <p>c) 5R (Residual) – 7%</p> <p>d) 5R (Off Spec) – 1%</p>	<p>a) 77% – 3R (rubber and steel recycled into products)</p> <p>b) 14.5% – 4R (rubber and fibre for energy recovery)</p> <p>c) 7% – 5R (residuals and fibre from 3R process landfilled)</p> <p>d) 1.5% – 5R (landfill of off spec regulated tires that cannot currently be processed into 3R or 4R)</p>	<p>4R: Anomaly year due to periodic shutdowns of the kiln.</p> <p>5R: Fibre that cannot be sold to market is landfilled.</p> <p>5R: Effective August 2012, the processor was able to process some Off Spec tires. In 2013, only a small portion of program tires are still unable to be processed.</p>
<p>4. 1,700 collection sites Collection site is defined as a retailer that in normal course of business will take back one scrap tire for every new tire sold.</p>	<p>1,733 collection sites</p>	<p>Please see Section 4 for a detailed explanation and Appendix B for a copy of the Audit Report.</p>

Plan Target	2012 Results	Remediation Strategies (N/A if target met)
5. a) 500 Return to Retailer (R2R) locations b) 2 Return to Retailer (R2R) locations per Regional District	449 R2R locations Central Coast is the only Regional District with less than 2 R2Rs	Increasing the number of R2Rs is a focus in 2013, including R2R recruitment as part of the Ambassador Tour activities This Regional District has only 2 registered retailers in the area.
6. 15 collection events	11 collection events	15 collection events in 2012 were offered but only 11 locations were willing to host the event. In 2013, TSBC has scheduled 15+ events with the majority held prior to June 30.
7. Report on measures taken to reduce abandoned waste	Submitted - please see Appendix E	N/A
8. Less than 24 legitimate collection complaints from retailers and generators	7 legitimate collection complaints received <ul style="list-style-type: none"> • This equates to 0.21% of the 3,260 registered retailer and scrap tire generator sites and substantiates the Collection Rate result of ~100% 	N/A
9. Less than 12 consumer complaints	3 complaints received: <ul style="list-style-type: none"> • lack of free disposal options for tire on rims • poor driving by scrap tire hauler • perceived egregious profits earned by stewardship programs in general 	N/A

Plan Target	2012 Results	Remediation Strategies (N/A if target met)
10. Under \$5 / PTE* program cost *Passenger Tire Equivalent	\$5.01 / PTE	2012 was an anomaly year. Exceptionally high demand for TDP required the processor to draw down its inventory significantly resulting in higher than normal processing incentive costs. In 2013 the \$/PTE is expected to return to below \$5 without TSBC intervention.
11. To ensure program stability, no less than 6 months of operational cost in reserve	As of December 31, 2012, TSBC had approximately 7 months of current operational cost in reserve	N/A
12. At least one update to the GHG inventory report between 2013 and 2017	No report planned or conducted in 2012	N/A
13. Delivery of OTR Processing Options Report to Ministry by July 1, 2013	Submitted - please see Appendix D	N/A

APPENDIX A: 2012 Audited Financial Statements



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INDEPENDENT AUDITORS' REPORT

**To the Members of
Tire Stewardship B.C. Association**

Report on the Financial Statements

We have audited the accompanying financial statements of Tire Stewardship B.C. Association, which comprise the statements of financial position as at December 31, 2012, December 31, 2011 and January 1, 2011, the statements of operations, changes in net assets, and cash flows for the years ended December 31, 2012 and December 31, 2011, and notes, comprising a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained in our audits is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of Tire Stewardship B.C. Association as at December 31, 2012, December 31, 2011 and January 1, 2011, and its results of operations and its cash flows for the years ended December 31, 2012 and December 31, 2011 in accordance with Canadian accounting standards for not-for-profit organizations.

Report on Other Legal and Regulatory Requirements

As required by the British Columbia Society Act, we report that, in our opinion, these principles have been applied on a basis consistent with that of the preceding year.

Norgaard Neale Camden Ltd.

CHARTERED ACCOUNTANTS

April 17, 2013

Victoria, B.C.

* Incorporated professional

**Tire Stewardship BC
2012 Report to Director, Waste Management**

**Tire Stewardship B.C. Association
Statement of Financial Position**

As at	December 31, 2012	December 31, 2011	January 1, 2011
ASSETS			
	\$	\$	\$
Current Assets			
Cash	2,045,939	2,708,347	1,667,693
Current portion of investments (note 4)	4,210,916	5,116,000	3,900,000
Accounts receivable	1,812,997	1,586,073	1,819,517
	8,069,852	9,410,420	7,387,210
Investments (note 4)	7,509,248	6,715,342	7,100,000
	15,579,100	16,125,762	14,487,210
LIABILITIES			
Current Liabilities			
Accounts payable and accrued liabilities (note 5)	3,824,359	3,657,279	2,761,591
	3,824,359	3,657,279	2,761,591
NET ASSETS (NOTE 6)			
Unrestricted	-	-	-
Stabilization Reserve	11,504,741	12,218,483	11,525,619
Research and Development Reserve	250,000	250,000	200,000
	11,754,741	12,468,483	11,725,619
	15,579,100	16,125,762	14,487,210

COMMITMENTS (NOTE 7)

Signed by Directors on behalf of the Board:



 Director



 Director

Tire Stewardship B.C. Association
Statement of Operations

For the Years Ended December 31	2012	2011
REVENUE	\$	\$
Advance Disposal Fees	17,566,546	17,551,819
Investment Income (note 4)	402,030	289,329
Total Revenue	17,968,576	17,841,148
EXPENSES		
Program Incentives	16,224,253	14,839,167
Administration		
Program Management	1,232,454	1,101,635
Communications and Education	298,262	226,352
Community Grant Program	650,042	631,337
Professional Fees	105,640	134,429
Board Expenses and Travel	171,667	165,364
Total Expenses	18,682,318	17,098,284
EXCESS (DEFICIENCY) OF REVENUES OVER EXPENSES	(713,742)	742,864

Tire Stewardship B.C. Association
Statement of Cash Flows

For the Years Ended December 31	2012	2011
	\$	\$
CASH PROVIDED FROM (USED FOR):		
OPERATING ACTIVITIES		
Excess (Deficiency) of revenues over expenses	(713,742)	742,864
Changes in non-cash working capital balances related to operations -		
Accounts receivable	(226,924)	233,444
Accounts payable and accrued liabilities	167,080	895,688
	(773,586)	1,871,996
INVESTING ACTIVITY		
Net purchase of investments	111,178	(831,342)
INCREASE (DECREASE) IN NET CASH	(662,408)	1,040,654
Net Cash - Beginning of year	2,708,347	1,667,693
NET CASH - END OF YEAR (NOTE 3)	2,045,939	2,708,347

**Tire Stewardship BC
2012 Report to Director, Waste Management**

**Tire Stewardship B.C. Association
Statement of Changes in Net Assets**

For the Years Ended December 31

	Unrestricted	Restricted		2012	2011
		Stabilization Reserve	Research and Development Reserve	Total	Total
	\$	\$	\$	\$	\$
Net Assets - Beginning of Year	-	12,218,483	250,000	12,468,483	11,725,619
Excess (Deficiency) of revenues over expenses	(713,742)	-	-	(713,742)	742,864
Transfers (note 6)	713,742	(713,742)	-		-
Net Assets - End of Year (note 6)	-	11,504,741	250,000	11,754,741	12,468,483

Tire Stewardship B.C. Association

NOTES TO FINANCIAL STATEMENTS

For the Year Ended December 31, 2012, with comparative figures for 2011

1. PURPOSE OF THE ORGANIZATION

Tire Stewardship B.C. Association ("TSBC") is a Stewardship Agency registered in British Columbia and incorporated under the British Columbia Society Act as a not-for-profit organization on August 25, 2003. TSBC is exempt from income taxes pursuant to Section 149(1)(l) of the Income Tax Act, Canada. On January 1, 2007, TSBC assumed responsibility for the Ministry of Environment ("Ministry") FIRST Program and entered into an agreement to manage the industry stewardship program for scrap tires in British Columbia in accordance with a Ministry-approved Stewardship Plan. The 2007-2011 Stewardship Plan remains in force and operational until such time as the new 5 year plan is approved by the Ministry.

The B.C. Recycling Regulation (449/2004) includes the requirement that all producers, as defined in the regulation and referred to in these notes as "tire retailers", prepare or be part of an approved stewardship plan. Presently, TSBC has the only approved tire stewardship program in the province and accordingly all tire retailers in BC must be registered.

2. ADOPTION OF ACCOUNTING STANDARDS FOR NOT-FOR-PROFIT ORGANIZATIONS

Effective January 1, 2012, TSBC adopted the requirements of the Canadian Institute of Chartered Accountants ("CICA") Handbook – Accounting – Part III, electing to adopt the new accounting framework: Canadian accounting standards for not-for-profit organizations ("NFPO"). These are TSBC's first financial statements prepared in accordance with these accounting standards for not-for-profit organizations which have been applied retrospectively. The accounting policies set out in the following significant accounting policies note have been applied in preparing the financial statements for the year ended December 31, 2012, the comparative information presented in these financial statements for the year ended December 31, 2011 and in the preparation of an opening NFPO statement of financial position as at January 1, 2011 (TSBC's date of transition). TSBC issued financial statements for the year ended December 31, 2011 using Canadian generally accepted accounting principles, prescribed by CICA Handbook – Accounting. The adoption of NFPO had no impact on the previously reported assets, liabilities and net assets of TSBC. Accordingly, no adjustments have been recorded in the comparative statement of financial position, statement of operations, statement of changes in net assets and the statement of cash flows. Certain of TSBC's disclosures included in these financial statements reflect the new disclosure requirements of NFPO.

3. SIGNIFICANT ACCOUNTING POLICIES

The financial statements have been prepared in accordance with Canadian accounting standards for not-for-profit organizations, applied within the framework of the significant accounting policies summarized below:

Use of Estimates

The preparation of financial statements in accordance with Canadian accounting standards for not-for-profit organizations requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingencies at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. As discussed in note 7, the incentive payments to the processors are payable only after the processing is complete and the product is sold. An inventory of processed materials not yet sold, and unprocessed scrap tires exists at the processors' plants. This inventory is estimated based on reports from the processors and actual inventories may vary significantly from this estimate. These estimates are reviewed periodically by management.

3. SIGNIFICANT ACCOUNTING POLICIES (continued)

Revenue Recognition

TSBC follows the deferral method of accounting. Under this method, restricted revenue is recognized in the year in which the related expenses are incurred. Unrestricted revenue is recognized when received or receivable if the amount received can be reasonably estimated and collection is reasonably assured. Investment income is recognized when earned.

TSBC charges an advance disposal fee to tire retailers on the sale of new tires. This fee is variable based on the type of tires sold. Advance disposal fee revenues are collected by the tire retailers at the point of sale and reported to TSBC in the following month. TSBC accrues the advance disposal fee revenues and recognizes them as unrestricted revenues in the month in which they were generated as reported by the tire retailers.

Cash and Cash Equivalents

The cash presented on the statement of financial position consists of cash on hand and cash on deposit. The cash and cash equivalents component of investments consists of cash on deposit and investments in money market instruments.

Incentives Payable

Incentives payable to processors are due only after the processing is complete and the product is sold for an eligible end use (or in the case of tire-derived fuel uses, delivered to the facility consuming the fuel). Incentives payable to manufacturers are due on receipt of crumb rubber from the processor **or on sale of the final manufactured product depending on the manufacturers' processes**. Incentives payable as of the end of the fiscal year are included in accounts payable and accrued liabilities.

Financial Instruments

Measurement of financial instruments

TSBC initially measures its financial assets and financial liabilities at fair value, except for certain related party transactions that are measured at the carrying amount or exchange amount, as appropriate.

TSBC subsequently measures all its financial assets and financial liabilities at cost or amortized cost, except for investments that are quoted in an active market, which are measured at fair value. Changes in fair value of these financial instruments are recognized in excess (deficiency) of revenue over expenses.

Financial assets measured at amortized cost on a straight-line basis include cash and cash equivalents, Guaranteed Investment **Certificates ("GICs")**, and **accounts receivable**.

Financial liabilities measured at amortized cost on a straight-line basis include accounts payable and accrued liabilities.

Financial assets measured at fair value include quoted equities and fixed income securities.

Impairment

Financial assets measured at cost are tested for impairment when there are indicators of impairment. The amount of the write-down is recognized in excess (deficiency) of revenues over expenses. The previously recognized impairment loss may be reversed to the extent of the improvement, directly or by adjusting the allowance account, provided it is no greater than the amount that would have been reported at the date of the reversal had the impairment not been recognized previously. The amount of the reversal is recognized in excess (deficiency) of revenues over expenses.

3. SIGNIFICANT ACCOUNTING POLICIES (continued)

Transaction costs

TSBC's transaction costs related to financial instruments that will be subsequently measured at fair value are recognized in excess (deficiency) of revenues over expenses in the period incurred. The carrying amount of the financial instruments that will not be subsequently measured at fair value is adjusted for transaction costs directly attributable to the origination, issuance or assumption of these instruments.

4. INVESTMENTS

	2012	2011
	\$	\$
GICs with maturity dates of 12 months or less, at amortized cost	4,210,916	5,116,000
GICs with maturity dates of more than 12 months, at amortized cost	-	1,648,800
Cash and cash equivalents, at amortized cost	112,919	309,313
Fixed income securities, measured at fair value	5,519,199	3,673,741
Equities, measured at fair value	1,877,130	1,083,488
	11,720,164	11,831,342
Current portion of GICs, at amortized cost	(4,210,916)	(5,116,000)
Investments	7,509,248	6,715,342

The GICs' interest rates ranged from 1.35% to 3.05% and their maturities ranged from May 21, 2013 to December 17, 2013.

Investment income is comprised of interest income of \$339,327 (2011 - \$286,847), dividends of \$26,791 (2011 - \$7,485), a realized losses of \$12,211 (2011 - gain of \$19,409), unrealized gains of \$76,979 (2011 - loss of \$7,661), less investment management fees of \$28,856 (2011- \$16,751).

5. GOVERNMENT REMITTANCES

Accounts payable and accrued liabilities include Harmonized Sales Tax payable of \$244,258 (2011 - \$318,098).

6. NET ASSETS

In 2012, TSBC's board of directors approved a transfer from the Stabilization Reserve to the Unrestricted Reserve in the amount of \$713,742.

Stabilization Reserve:

- Ensures that funds are available to meet the potential incentives owing to processors for the whole tires and unsold product from previously delivered tires. TSBC has entered into agreements with processors to provide incentives to process and sell their products. The incentive is paid when the product is sold.
- Assists, in the event of a cessation of the Tire Stewardship Program or the wind up of the Society, with the potential financial consequences that may arise if such events were to occur.

6. NET ASSETS (continued)

Research and Development Reserve:

- Ensures that funds are available to conduct research and development activities needed to ensure a sustainable tire-recycling program in the province of British Columbia.

7. COMMITMENTS

As at December 31, 2012, whole tires and unsold product at registered processor facilities were estimated at 587,984 (2011 – 1,018,301) **passenger tire equivalents (“PTE”)**. The **incentive payments** to processors could amount to a future liability of up to \$1,914,391 (2011 - \$3,259,887). TSBC has entered into an agreement for the provision of management and administrative services for a period of 5 years beginning January 1, 2012.

8. FINANCIAL INSTRUMENTS

TSBC's **financial instruments** consist of cash and cash equivalents, investments (note 4), accounts receivable, and accounts payable and accrued liabilities.

Risks and Concentrations

TSBC is exposed to various risks through its financial instruments, without being exposed to concentrations of risk. The following analysis provides a measure of the TSBC's risk exposure as at December 31, 2012, December 31, 2011, and January 1, 2011.

Credit risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. Credit risk arises from the potential that registered tire retailers who are required to remit advance disposal fees on their tire sales will fail to perform their respective obligation to remit these funds to TSBC. TSBC is exposed to credit risk from these registrants. However, TSBC has a large number of registered tire retailers, which minimizes the concentration of credit risk.

Liquidity risk

Liquidity risk is the risk that an entity will encounter difficulty in meeting obligations associated **with financial liabilities**. **Unless otherwise noted, it is management's opinion that, under normal circumstances, TSBC is not exposed to significant liquidity risk arising from these financial instruments.**

Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: currency risk, interest rate risk and other price risk.

Currency risk

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. **Unless otherwise noted it is management's opinion that, under normal circumstances, TSBC is not exposed to significant currency risk arising from these financial instruments.**

8. FINANCIAL INSTRUMENTS (continued)

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. TSBC is exposed to interest rate risk on its fixed and floating interest rate financial instruments. Fixed-interest instruments subject TSBC to a fair value risk, since fair value fluctuates inversely to changes in market interest rates. Floating rate instruments subject TSBC to related cash flow risk. Unless otherwise noted it is management's opinion that, under normal circumstances, TSBC is not exposed to significant interest rate risk arising from these financial instruments.

Other price risk

Other price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices (other than those arising from interest rate risk or currency risk), whether those changes are caused by factors specific to the individual financial instrument or its issuer, or factors affecting all similar financial instruments traded in the market. TSBC is exposed to other price risk through its investments in equities and fixed income securities for which the values fluctuates with the quoted market price and interest rates.

APPENDIX B: 2012 Non Financial Information Audit Report



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INDEPENDENT AUDITORS' REPORT

**To the Members of
Tire Stewardship B.C. Association**

We have audited the following sections within Tire Stewardship B.C. Association's (the "Stewardship Agency's") Annual Report for the year ended December 31, 2012 (together the "Subject Matter"):

- Section 4: Collection System and Facilities; and
- Section 7: Product Sold and Collected and Recovery Rate.

The objective of this Report is to disclose how the Stewardship Agency's management has discharged its responsibility to report on the Subject Matter in accordance with Sections 8(2)(b) and (e) of the Recycling Regulation.

The Subject Matter is the responsibility of the Stewardship Agency's management who have prepared the Subject Matter in accordance with the evaluation criteria which are an integral part of the Subject Matter. Our responsibility is to express an opinion on this Subject Matter based on our audit. Our audit does not constitute a legal determination on the Stewardship Agency's compliance with the Recycling Regulation.

EVALUATION CRITERIA

The suitability of the evaluation criteria is the responsibility of management. The evaluation criteria presented in Attachment 1 are an integral part of the Subject Matter and address the relevance, completeness, reliability, neutrality and understandability of the Subject Matter.

SCOPE OF THE AUDIT

We carried out our audit in accordance with the International Standard on Assurance Engagements 3000 (ISAE 3000) published by the International Federation of Accountants. This Standard requires, amongst others, that the assurance team possesses the specific knowledge, skills and professional competencies needed to understand and audit the information included within the Subject Matter, and that they comply with specific requirements to ensure their independence.

An audit includes examining, on a test basis, evidence supporting the amounts and disclosures within the Subject Matter. An audit also includes assessing the evaluation criteria used and the significant estimates made by management, as well as evaluating the overall presentation of the Subject Matter. The main elements of our work were:

- Inquiring and discussing with the Stewardship Agency's management to obtain an understanding of the management and information systems, processes and relevant controls used to generate, aggregate and report the data in the Annual Report;
- Agreeing the number of collection facilities to supporting documentation;
- Confirming the existence of collection facilities and other registered retailers on a test basis;
- Inspecting source documentation for proper classification of collection facilities and other registered retailers on a test basis;

* Incorporated professional



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INDEPENDENT AUDITORS' REPORT (continued)

- Agreeing the total amounts of the producer's product sold and collected during the year to source records on a test basis;
- Agreeing data used in calculations to source records on a test basis; and
- Re-performing calculations on a test basis including the recovery rate calculation.

BASIS FOR QUALIFIED OPINION

The Stewardship Agency's definition of a collection facility was changed effective December 31, 2012 in accordance with management's evaluation criteria. As of the date of our audit report, information about the number and location of collection facilities as at December 31, 2011 in accordance with the evaluation criteria was not available. As a result, we were unable to obtain sufficient appropriate audit evidence about the changes in the number and location of collection facilities from the year ended December 31, 2011.

QUALIFIED OPINION

In our opinion, except for the effects of the matter described in the Basis for Qualified Opinion paragraph, the Subject Matter within the Stewardship Agency's Annual Report for the year ended December 31, 2012 presents fairly in accordance with the evaluation criteria, in all material respects:

- The number and location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of the Recycling Regulation; and,
- The description of how total amounts of the producer's product sold and collected and the producer's recovery rate has been calculated in accordance with Section 8(2) (e).

Our report has been prepared solely for the purposes of management's stewardship under the Recycling Regulation and is not intended to be and should not be used for any other purpose. Our duties in relation to this report are owed solely to the Stewardship Agency, and accordingly, we do not accept any responsibility for loss occasioned to any other party acting or refraining from acting based on this report.

Norgaard Neale Camden Ltd.

CHARTERED ACCOUNTANTS

Victoria, Canada

June 17, 2013

Attachment 1

Tire Stewardship B.C. Association ("TSBC") Assurance / Evaluation Criteria For Data From Reporting Year Ended December 31, 2012

Collection Facilities

The following evaluation criteria were applied to the assessment of the location of collection facilities, and any changes in the number and location of collection facilities from the previous report in accordance with Section 8(2)(b) of the Recycling Regulation.

1. The number of collection facilities is measured by the number of registered retailers, as at year end, that will take back a scrap tire from the consumer at the time a new tire is sold (TSBC's fiscal year ends December 31st).
2. The location of collection facilities is included in the list of registered retailers that is provided on the TSBC website as at December 31, 2012.
3. The change in the number and location of collection facilities is based on direct comparison of the number of collection facilities on a provincial and regional district basis compared to the equivalent data for the preceding year.

Recovery Rate

The following evaluation criteria were applied to the assessment of the description of how the total amounts of the producer's product sold and collected and the producer's recovery rate has been calculated in accordance with Section 8(2)(e) and Section 1 "producer" (a.1) of the Recycling Regulation.

1. The recovery rate is expressed as a percentage of the number of units (units are defined as whole tires) collected divided by the number of units sold.
 - a. The number of units collected is recorded at the time of pick up on a TSBC waste manifest form and delivered to a TSBC registered processor.
 - b. The number of units sold is recorded at the time the Advance Disposal Fee (ADF) is reported by the retailer on TSBC's ADF Return form.

APPENDIX C: Collection Volumes by Tire Type by Regional District

Tire Stewardship BC – Scrap Tire Capture in 2012 (tonnes)

Regional District	PLTs	MTs	AG	LS
Alberni - Clayoquot	235	134	2	2
Bulkley – Nechako	407	447	10	43
Capital	1,356	204	6	4
Cariboo	718	453	10	45
Central Coast				
Central Kootenay	606	121	4	11
Central Okanagan	1,455	264	6	6
Columbia – Shuswap	571	188	5	10
Comox – Strathcona	780	263	6	6
Cowichan Valley	878	161	8	2
East Kootenay	653	319	6	20
Fraser-Ft George	925	1,133	9	38
Fort Nelson – Liard	145	246	4	2
Fraser Valley	1,773	1,572	45	29
Greater Vancouver	7,660	3,374	28	21
Kiitmat – Stikine	301	140	1	3
Kootenay – Boundary	262	54	2	5
Mt. Waddington	100	88	1	1
Nanaimo	824	265	4	5
North Okanagan	802	313	9	11
Okanagan – Similkameen	719	126	5	4
Peace River	911	849	32	11
Powell River	139	47	1	0
Skeena – Queen Charlotte	107	23	0	0
Squamish – Lillooet	397	75	2	1
Sunshine Coast	171	35	1	1
Thompson – Nicola	1,439	1,471	16	62
Total	24,334	12,365	222	344

Definitions:

PLT = Passenger Tires, Light Truck Tires, ATV,

MT = Medium Truck Tires

AG = Agricultural Tires

LS = Logger Skidder Tires

APPENDIX D: OTR Processing Options – Status Report

Annual OTR Processing Options Report Status Report to Ministry of Environment June 2013

Introduction

TSBC has been active in researching the recycling of BC's Off the Road (OTR) tires since 2010 and reported the status of that research in its draft Stewardship Plan 2013 – 2017, first submitted to the Ministry of Environment in September 2011. This status report is as of June 2013 for inclusion in TSBC's 2012 Annual Report.

Research pointed to two tiers of OTRs:

- Small to large industrial and earthmover tires up to 39 inch rim diameter; and
- Giant tires with a rim diameter over 39 inches used on haul trucks deployed primarily in open pit mines.

Research also suggested that:

- BC alone may not have sufficient volumes of OTR scrap tires in either tier to economically support a processing facility in BC, and that possibly a regional facility would be needed; and
- A two tiered approach may be warranted as in Alberta for instance, where the small to large OTR tier is regulated and included in Alberta's recycling program, but the giant OTR tier is not regulated, at the request of the end users.

For this status report, TSBC continues to work towards its vision, that *all BC's scrap tires are transformed to the environmental, economic, and social benefit of BC's citizens.*

BC and Alberta Collaboration

In 2012, the two agencies, TSBC and Alberta Recycling Management Authority (ARMA) initiated discussions on the opportunities to collaborate on a regional approach to OTR tire recycling. Representatives from both programs co-presented the rationale for collaborating at the October 2012 Rubber Association of Canada (RAC) tire recycling conference in Toronto. The presentation is included as [Attachment 1](#) to this report. The two agencies outlined a number of harmonization opportunities and challenges in the areas of setting eco fees, incentives and policies, and research. Interprovincial cooperation continues.

Processing Options

Two very different technologies are being considered by industry to deal with BC and Alberta OTRs:

1. *Conventional ambient shredding and grinding technology* scaled up to handle all OTR sizes, but focused on the giant OTR tires. The process produces various gradations of shred and crumb rubber for the Tire Derived Product (TDP) and Tire Derived Fuel (TDF) markets.

[Liberty Tire Recycling](#) owns and operates tire recycling plants in Delta and Chemainus BC, in Legal Alberta, and in Brantford Ontario as well as many locations throughout the United States. Liberty announced recently that it is moving ahead with an expanded tire processing system in Alberta that will service Alberta, BC, and possibly other provinces:

"Liberty is proceeding with its plan to establish major OTR processing capabilities at Legal Alberta. We expect to be finished in early 2014. We will be able to take all OTR types and sizes from the smaller sizes right up to the giant mining tires on the largest haul trucks used in BC and Alberta's open pit mines.

Jeffrey Kendall, CEO Liberty Tire Recycling, June 6, 2013.

2. Pyrolysis technology to take whole OTR tires of any size, but focused on the giant OTR tires. The process will produce steel, oil and gas, and carbon black.

Pyrolysis of scrap tires has been around for years but we understand it is still unproven on a commercial scale. Nonetheless, TSBC was advised in June 2013 that Titan Reclamation Services Inc., an Alberta registered company, is looking to set up two pyrolysis facilities, one at Fort McMurray to service the mines there, and another in BC or Alberta to process OTR tires from both provinces' other mines.

Support for Recycling by OTR Retailers and End Users

Based on discussions with selected OTR retailers on the topic of recycling the giant OTR tires, both retailers and mine operators appear genuinely supportive of recycling them responsibly but are concerned about the cost impacts of transporting and processing the tires.

Most mines have ample land on which to simply store the tires at zero cost. And a voluntary program for giant OTR tire recycling presents competition risks for mines that chose to participate, compared to any that don't. Consequently, OTR users remain hesitant to sign up for either of these new processing options until such time as it becomes a government requirement to recycle OTRs.

TSBC anticipates that ultimately, end users and retailers as well as processors will request that OTRs be regulated to level the playing field for OTR tire consumers, and to secure the volumes necessary to allow economies of scale.

TSBC's Next Steps

1. Maintain a watching brief on both processing options for BC's tires.
2. Initiate discussions with OTR retailers and end users of both tiers, possibly by way of a survey to:
 - a. determine volumes of annual scrap tire generation and existing scrap tire piles awaiting disposal;
 - b. provide a briefing on the current status of processing options; and
 - c. gauge willingness and readiness for regulating these tires and participation in a stewardship program.
3. Begin dialogue with the Ministry of Environment to understand the process for regulating OTR tires.
4. Continue discussions with Alberta on the nature and extent of harmonizing the OTR tire stewardship programs.

APP. D – Attachment 1: OTR Tire Recycling – Presentation to Rubber Association of Canada (Oct 2012)

OTR Tire Recycling


GIANT Opportunity To Collaborate

Rubber Association Conference
October 19, 2012



Giant Collaboration Opportunity

- Does it make sense to keep “thinking inside the boxes”?
 - Two provincial OTR programs
- What if we start “thinking outside the boxes”?
 - A regional solution



Tire recycling in BC



- ✓ A government program (FIRST*) since 1991
 - Early years - a proud and successful program
 - Later years - underfunded & unhappy stakeholders


**FIRST: Financial Incentives to Recycle Scrap Tires*

- ✓ A full EPR program since 2007
 - Board of Directors - retailers & manufacturers
 - Government-approved 5 year Stewardship Plan
 - Recycle, Recover Energy, Residual Management
 - A successful transition, very satisfied stakeholders


With industry behind the wheel...

TSBC program is stable and sustainable:


- ✓ Well funded – fees and incentives set by TSBC with no government approval required
- ✓ Results tell the story...



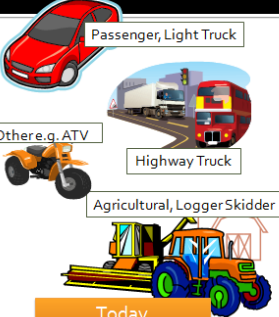
Hierarchy	2011
Recycle– TDP (Crumb, Mulch)	71%
Recover energy– TDF	20%
Residuals (off spec tires, waste)	9%
Total Tonnes Processed	100%



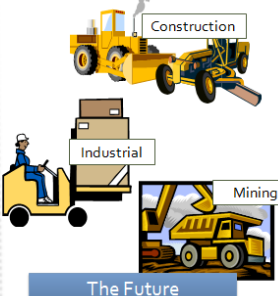
Tires Included - BC



Today
~40,000 Tonnes/Yr



The Future
~10-12,000+ Tonnes/Yr



Tire Recycling



- Recycling program started 1992
- Board representing many stakeholder groups reports to the Minister of Environment
- TDA and TDP (crumb) are primary markets
 - TDF only permitted for stockpile reduction

Tires Included - AB

Today
~57,000 Tonnes/Yr

The Future
~20-30,000+ Tonnes/Yr

Types of tires included: Passenger, Light Truck; Other, e.g. ATV; Highway Truck; Agricultural, Logger Skidder; Industrial; Construction; Mining.

Tire Recycling - AB

- OTR Pilot Project introduced 2006
 - Assessed challenges with OTR pick-up, processing
 - Cleaned up backlog of OTR around the province
 - Incentive rates (collection & processing) developed based on pilot project outcomes
 - Results used to develop environmental fees

How we incent scrap tires to flow

both

- Transportation Incentive**
 - Incentive paid to Processors who pay haulers
 - Manifest system tracks source and drop off locations
- Processor Incentive**
 - Incentive paid to Processor on \$/tonne of products sold
 - Rates based on type of product produced

Logos: TIRE Stewardship BC, Alberta recycling

How we incent end use

both

- Transportation Incentive**
- Processing Incentive**
- End User Incentives**
 - Manufacturer Incentive
 - Community Grants

Logos: TIRE Stewardship BC, Alberta recycling


OTR in BC

- Program OTR @ Jan 1, 2007**
 - Agricultural (AG) - \$5 to \$15 per tire
 - Logger Skidder (LS) - \$35 per tire
 - Until recently, all are sheared & landfilled
 - Going forward, considering out of province processors
- Non-Program OTR**
 - Small, Medium, Large (SML)
 - Estimated 3000 tonnes per year
 - Giants
 - Estimated 9000 tonnes per year


OTR in AB

- Program OTR @ April 1, 2011**
 - OTR fees
 - Small (up to 24" rim size) = \$40.00
 - Medium (24" to 33" rim size) = \$100.00
 - Large (33" to 39" rim size) = \$200.00
 - Approximately 4,000 tonnes average annual collection
- Non program OTR**
 - Over 39" rim size (i.e. giant mining tires)
 - At the request of industry, tires over 39" rim size not included in the program.
 - Stockpiles starting to accumulate in the oil sands
 - Markets are needed

OTR Processing



- Program OTR
 - ~4,000 tonnes of OTR processed annually
 - OTR processor also processes PLTT and non-program OTR
 - Program OTR collection not sufficient to support full time processing



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OTR Processing Site




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Giant OTR




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Size matters...



OTR Processing Site




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Potential OTR Markets



- Tire Derived Fuel market outside AB
 - Stockpile management strategy
- Pyrolysis
 - Test facilities currently in operation
 - Valuable by-products from processing
- New applications for TDA

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Road Construction Pilot Project



- Research project to allow the province to gain Alberta experience of using shredded tire as a fill material on roads.
- OTR test section (20 metres)
 - 2 lifts, 3 metres each
 - 3,600 tonnes

Pilot project used the equivalent of a full year of Alberta's OTR collection

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OTR TDA Road Application



Aerial Photos – August 27, 2012



Summary – Similarities, Differences



	1991	1992
Age	1991	1992
Eco fee structures, rates	Graduated fees by tire size, Rates different	
Incentives structures, rates	Similar incentives, Rates different	
Scale (annual tonnes)	40,000	57,000
Markets	TDP, TDF	TDA, TDP
OTR included	LS / AG	S, M, L up to 39"
Governance	Full EPR	Government approvals required

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Collaboration Focus

- Re-Focusing on Small, Medium, Large (SML) OTRs
 - Industry players are stepping up to the plate for Giants
- Issues are different for SML, relative to Giants...
 - High numbers, low tonnage
 - Broadly distributed geographically
 - Many uses / industries / sites / customers
 - Construction
 - Industrial
 - Agricultural
 - Eco fees may increase to cover full costs without cross-subsidization by other program tires

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Thinking inside provincial boxes?



May be easier to think provincially **BUT**

- Recent research suggests minimum volume of ~ 10,000 tonnes /processor to support the investment in requisite technology
- BC estimates 3000 tonnes
- AB collects 4000 tonnes

AND

- Saskatchewan collects 1200 tonnes

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Thinking outside the boxes



- We have recent experience in enabling cross border flow of program tires by removing barriers:
 - Whole tires & shred from AB to BC for TDF
 - Crumb & mulch from AB to BC for further processing, sale
 - Off-spec tires from BC to AB or USA for processing
 - Some Saskatchewan OTRs go to Manitoba

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Opportunities for SML Harmonization



Harmonization opportunities, challenges:

- Eco fees
- Incentives and policies
 - Transportation
 - Processing – one processor or more?
- Research

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Eco fees



Challenges

- Should eco fees be identical?
- Will cross-subsidization of tire types be allowed?
- How do we get there?

Opportunities

- Reduce consumer and retailer confusion
- Everyone pays their fair share of the costs

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Collection & Transportation



Opportunity

- Competition for supply
- Processor access to greater volumes of tire types to fit its processing niche
- Single transportation model
- Better carbon footprint

Challenge

- Current transportation models do not permit (without permission) cross border flow of program tires to approved processors.
- What is agencies' role in supply/demand management?

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Processing Incentives



Opportunities

- Increase the recovery rates in multiple jurisdictions by having processing option(s) in place.

Challenges

- Should incentives be identical?
- How to establish processing incentives equitably? Typically, processing incentive rates are driven by products and processors' technology and markets

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R&D Collaboration

Opportunity

- Partner with various industry stakeholders on solutions for OTR tires
 - Technology projects: de-beading, pyrolysis, transportation...
 - Market research

Challenge

- **Seeking equilibrium between social objectives and economic realities**



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Conclusions

- All OTR sizes can be processed in high volumes
- Competition for supply appears to be building
- Markets for TDP, TDF, TDA exist but need to be developed fully
- The jury is still out on when industry will request that giant OTRs be regulated

- We have just begun to collaborate seriously – it is a work in progress

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Questions?



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APPENDIX E: Report on Measures to Reduce Abandoned Waste

Illegal Dumping of Tires – Status Report

Introduction

In the public consultation process conducted in May 2011 on TSBC's proposed Stewardship Plan renewal, the subject of illegally dumped and abandoned materials was raised. Wastes mentioned included tires and other products such as electronics, mattresses and furniture. The suggestion was to work with local governments and other product stewards to research the problem of abandoned waste and develop a strategy to address it. TSBC committed to work with Regional Districts to find ways to reduce the impact of abandoned tires on their waste management operations, and report progress annually. This is TSBC's progress report.

Status of Research

In consultation with TSBC and other stewards, Metro Vancouver and the City of Vancouver developed a template to gather data on the type, volumes and locations of waste abandoned in urban environments. The data collection step is well underway and targeted to be completed by mid 2013.

Once the research data is available, TSBC will work with Metro Vancouver and the City of Vancouver to develop strategies to address abandoned tires in the urban environment.

Ongoing Efforts to Reduce Illegal Dumping

Collection events

TSBC conducted six tire collection events in Surrey and Burnaby in April and May 2013 to collect orphan tires. These events were widely promoted to make it more convenient and efficient for consumers to dispose of their recyclables. In total, 2307 orphan tires were collected, preventing them from ever being illegally dumped. Another 4642 orphan tires were collected in five other tire collection events in four smaller communities in BC.

These events also provided another opportunity to inform the public on what happens to the eco fees they pay and the products they discard. At all collection events, motorists were offered free tire pressure gauges and informed that they should ensure tires are properly inflated and maintained to improve safety and reduce tire wear and fuel consumption.

Education

With three other stewardship agencies, TSBC co-sponsored the production and delivery of four [Voices of Nature](#) concerts in Surrey and Burnaby in March. *Voices of Nature* is an innovative program that combines music and ecological education and is designed to reach children in elementary school, their teachers and families. The program focuses on environmental stewardship, sending out the strong message that reducing and managing waste is the key way to protect nature in our daily lives. The program is developed and delivered by the [Artist Response Team](#) from Vancouver.

Ambassador Program

In 2013 TSBC is partnering with the BC Used Oil Management Association in its 8th annual [Ambassador Program](#). Through this program, TSBC is engaging retailers, local governments, the media and the public directly in discussions about the successes, issues, and opportunities to improve the tire recycling program in BC. Already within the first few weeks of a 16 week schedule, 34 new [Return to Retailer](#) (R2R) sites were recruited. R2Rs provide the public with convenient, no cost disposal of up to four tires, contributing to the goal of fewer tires abandoned in rural and urban landscapes.

The program will be refined from year to year as warranted to address key issues and opportunities, including the challenges associated with illegally dumped tires in both the urban and rural environments.