

Tire Stewardship BC

Annual Report to the Director

2015



TSBC grant recipient: BC recycled rubber surface at Science World in Vancouver

Submitted to:

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Table of Contents

1. Executive Summary.....	1
2. Program Outline.....	5
3. Public Education Materials and Strategies.....	6
4. Collection System and Facilities	8
5. Product Environmental Impact Reduction, Reusability and Recyclability	10
6. Pollution Prevention Hierarchy and Product / Component Management	11
7. Product Sold and Collected and Recovery Rate.....	12
8. Summary of Deposits, Refunds, Revenues and Expenditures.....	14
9. Plan Performance.....	14

Appendices

- A [2015 Audited Financial Statements](#)
- B [2015 Non Financial Information Audit Report](#)
- C [Collection Volumes by Tire Type by Regional District](#)
- D [OTR Processing Options – Status Report](#)
- E [Report on Measures to Reduce Abandoned Waste](#)

1. Executive Summary

Products within plan	Tires
Program website	www.tsbc.ca

Recycling Regulation Reference	Topic	TSBC – 2015 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, sponsorships, and directly to the public at Tire Round-Up events held across the province. Key achievements included: <ul style="list-style-type: none"> • Partnering with other BC stewards in the province-wide BC Recycles Ambassador Tour that included retailer site visits and attending community events; and • Continuing the Community Grant Program to incent the use of BC rubber in qualified projects across the province (26 in 2015).
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 828 retailers currently accept up to 4 tires from each member of the public; and • Tire Round-Up events held around the province (15 in 2015). • 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 retreading and “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. • In 2015, 3R uses represented 72% of the total tonnes processed.

Recycling Regulation Reference	Topic	TSBC – 2015 Summary Report
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 2015 “Recovery Rate,” applying the calculation recommended by the BC Recycling Regulation, was 79% 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 Appendix C for breakdown of collection by 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 the Advance Disposal Fee rates have not increased since 2008.

Plan Performance – 2015

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)	a) 79% Recovery Rate b) 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.
3. Breakdown of total tonnes processed: a) 3R – 71%	a) 72% – 3R (rubber and steel recycled into products)	N/A

Performance Targets (as agreed with Ministry)	Performance	Remediation Strategies (if requirement or target not met)
<p>b) 4R – 21%</p> <p>c) 5R (Residual) – 7%</p> <p>d) 5R (Off Spec) – 1%</p>	<p>b) 26% – 4R (rubber and fibre for energy recovery) Broken down as follows:</p> <ul style="list-style-type: none"> • 13% fibre • 13% whole tires or shred <p>c) 1% – 5R (residuals and fibre from 3R process landfilled)</p> <p>d) 1% – 5R (landfill of off spec regulated tires that cannot currently be processed into 3R or 4R)</p>	<p>4R: It is important to note that 50% of the volume directed to TDF is fibre, a residual from the tire recycling process. TSBC could have directed this material to 5R in order to meet its target but this is contrary to the intent of the 5R hierarchy. The % of tires diverted to TDF in 2015 is up 2% from 2014 due to flows being directed to Lehigh during a 4-week shutdown for a plant upgrade by Western – see Section 6 for details.</p> <p>5R: This low percentage is due to a concerted effort by the processor to minimize waste and find 3R and 4R uses for the material.</p> <p>5R: In 2015, only a very small portion of the program tires were still unable to be processed (294 tonnes).</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>1,886 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>a) 828 R2R locations</p> <p>b) All Regional Districts have at least 2 R2R locations</p>	<p>N/A</p>
<p>6. 15 collection events</p>	<p>15 collection events – please see Table 1 for details</p>	<p>N/A</p>

Performance Targets (as agreed with Ministry)	Performance	Remediation Strategies (if requirement or target not met)
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	4 legitimate collection complaints received <ul style="list-style-type: none"> • This equates to 0.1% of the 3,601 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	No complaints recorded	N/A
10. Under \$5 / PTE* program cost *Passenger Tire Equivalent	\$4.59 / PTE	N/A
11. To ensure program stability, no less than 6 months of operational cost in reserve	As of December 31, 2015, 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 2015	N/A
13. Delivery of OTR Processing Options Report to Ministry by July 1, 2015	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;
- Tire and 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 2015, of the \$20.2M collected in eco fees, \$18.5M was paid out in Transportation, Processing and Manufacturing Incentives and over \$400,000 awarded in grants for 26 projects in 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 choose to take their scrap tires home for disposal at a later date. TSBC refers to these tires as "orphan" tires and offers the consumer two free disposal options: drop off at up to 15 collection events throughout the year and/or at 828 Return to Retailer (R2R) locations throughout BC that 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](#) app and the [BCRecycles](#) 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 Manufacturing Incentive Program and landscaping mulch product, TSBC is pleased to report that the volume of finished products made from BC rubber *in BC* since 2010 has more than **tripled**.

3. Public Education Materials and Strategies

TSBC focuses its stakeholder outreach on a broad education and communication campaign, raising consumer awareness on “where the money goes” and “where the tires go.” In 2015, communication methods included the initiatives below.

Tire collection events

TSBC participated in and provided funding for 15 collection events in 2015. In an effort to reduce the significant costs associated with these events, TSBC once again partnered with the Artist Response Team (ART) to hold Round-Ups in conjunction with concerts held at the schools through the ART education program. In 2015, TSBC partnered with ART for 10 Round-Ups, with the schools responsible for all the event promotion through social media, school newsletters and posters, and TSBC providing the collection and a donation to the schools to fund environmental related initiatives. In total, over 10,000 tires were collected at the 15 Round-Ups held around the province.

TSBC uses 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 offered 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 way to get the word out on “what happens to the tires” and “what happens to the money.” The ability to showcase how British Columbians benefit when scrap tires are diverted from landfill and recycled into marketable products is invaluable. In 2015, grants were awarded to 26 applicants from communities throughout BC, which used 1.5million lbs of BC rubber, the equivalent of approximately 100,000 car tires, for playground and spray park surfaces, recreational flooring, pathways and outdoor fitness area projects. The Community Grant Program was featured in community papers and on social media. Applicants are required to have [onsite signage](#) to officially recognize TSBC as a contributor to these important projects and to advise the local MLA of the project and the grant.

In addition to the 26 projects, TSBC was pleased to have partnered with Canadian Tire to help fund a new playground at the [BC Children’s Hearing and Speech Centre](#). The centre teaches deaf and hard of hearing children to listen and speak, and to fully participate in the hearing world. TSBC provided the funding for the BC recycled rubber surface with Canadian Tire providing funding for the equipment and volunteers to paint the playground area and assist with the equipment installation. The reaction of the children to their new playground confirmed this project was a win for everyone involved.

Ambassador Tour

In 2015, TSBC was pleased to once again be the primary partner with the BC Used Oil Program in its 10th annual [Ambassador Program](#). With seven other BC stewards participating, the decision was made to rename the program to the BC Recycles Ambassador Tour. BC Recycles is the one stop shop for consumers to locate where to take back their recycling and was created in response to a request from the Ministry to make it easy for BC consumers to recycle. From May to August, four communications students from SFU tour the province in branded vehicles. The tour has two focus areas: B2C and B2B.

B2C is the consumer facing component of the tour with the students hosting a booth at community events throughout the province. The primary goals are to create responsible recycling awareness; promote BC Recycles and the Recyclepedia app; engage consumers in social media; and to promote each steward and their respective mandates. In 2015, 28 events were attended with a reach to over 1.2 million consumers.

The B2B component is the visits to program participants; in TSBC's case, these are the tire retailers. The goals are to build valuable relationships; collect data by way of a survey; and to create awareness of the tour and BC Recycles. In 2015, the students visited 950 TSBC retailers.

These initiatives earned 28 media hits ranging from radio to newspaper in all regions of the province and a significant uptake in social media through Twitter, Facebook and Instagram.

The program is an excellent way for TSBC to connect with retailers face to face and gives retailers the opportunity to provide feedback first hand, specifically on their level of satisfaction with scrap tire collection services. TSBC is pleased to report that the average satisfaction score was 8/10, a significant achievement given the high number of collection points across the province.

Partnerships

With three other stewardship agencies, TSBC co-sponsored the production and delivery of the [Voices of Nature](#) & Up Your Watershed Tour concerts in 2015. This is an innovative program that combines music and ecological education and is designed to reach children in elementary school, their teachers and their families. The program focuses on environmental stewardship, sending a strong message that the key to protecting nature in our daily lives is by reducing and managing waste. The program is developed and delivered by the [Artist Response Team](#) from Vancouver. Seven concerts in total were held in 2015, all of which had an associated TSBC Round-Up.

Website

The website is designed to provide information to two main stakeholder groups: registered participants and the public. For the public, the web site includes information on:

- Drop off locations (R2R locations and tire collection events);
- Community Grant Program;
- TSBC videos;

- Tire recycled products; and
- Annual reports.

RCBC Hotline and Recyclepedia & BC Recycles

As in prior years, TSBC contributed funding to the [Recycling Council of BC](#) to operate the [Recycling Hotline](#) and its Recyclepedia [Smart Phone App](#). TSBC also contributed funding to create the BC Recycles web site, a Stewardship Agencies of BC initiative. These tools are excellent resources for the consumer, particularly for information on tire drop off locations, and align with the Ministry's desire to have a one-stop shop for citizens of BC looking for information on where to recycle their waste.

4. Collection System and Facilities

As the tire program is a retailer based collection system, TSBC defines 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."* This definition reflects 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.

In 2015, there were 1,886 collection facilities compared to 1,827 in 2014. The change relates to a combination of various events, such as new retailer locations, closed locations, and changes in retailer businesses that resulted in the retailers no longer meeting the definition of a collection facility.

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 4% 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. The drop in volume of tires going to landfill indicates that the measures TSBC has put in place as alternate disposal methods are working. As a result of a recruitment drive for R2Rs during the 2015 Ambassador Tour, TSBC was able to significantly increase the number of R2R locations from 684 as at December 31, 2014 to [828 R2R locations](#) at the end of 2015. R2Rs are registered retailers that have voluntarily agreed to accept up to 4

clean and off-rim car tires from the public. In addition to the TSBC website, the list of R2R locations is available on the BC Recycles web site and the [Recyclepedia](#) app.

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 2015 events are shown in Table 1 below. While these types of events are successful in terms of diverting tires that might otherwise be abandoned in the rural or urban environments, they are costly to host. In 2015, through its partnership with ART engaged schools, TSBC worked with ART to initiate local collection events as part of its fundraising activities, with TSBC providing a financial contribution linked directly to the success of their Round-Ups. In 2015, 10 of the 15 Round-Ups were ART related events. TSBC also provided assistance to the Sunshine Coast Regional District in its 2015 “Islands’ Clean Up”, resulting in scrap tires being collected from Trail, Keats, Gambier and Thormanby Islands. In total, over 10,000 tires were collected thanks to the efforts of all involved, which include the retailers willing to host these events and Western Rubber for providing the trailers and manpower to accept and load the tires.

Table 1 Collection Events – 2015

Date	Facility	City
February 7	Fountain Tire	White Rock
February 21	Fountain Tire	Surrey
March 7	Kal Tire	Squamish
March 28	Fountain Tire	Vancouver
April 25	London Drugs	Prince George
May 2	Canadian Tire	Quesnel
May 9	Canadian Tire	Williams Lake
May 16	Canadian Tire	Mission
May 30	Kal Tire	Lillooet
June 6	Kal Tire	Fort St John
June 13	Kal Tire	Delta
June 27	Kal Tire	Vernon
October 17	OK Tire	Parksville
November 7	Kal Tire	Chilliwack
November 21	Fountain Tire	Abbotsford

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 Tire and 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 2015, TSBC held four of its Round-Up events in May to align with May's Be Tire Smart week, handing out tire pressure gauges at this and all of its public events.

Reusability

Retreading of medium truck tires and Off-the-Road (OTR) tires is an ongoing commercially viable activity, and accounts for significant volumes of tires diverted from end-of-life management. TSBC's program incents this activity by **not** assessing an eco fee on retreaded tires (equivalent to \$9 per medium truck tire). As retreaded tires are not program tires, their sales are not included in the diversion statistics. However, both medium truck and OTR tire retreading will continue to increase under the program as a result of the commercial strength of the market for this product.

The retreading of passenger and light truck tires is not currently recommended as these types of tires are not designed by the manufacturer to be retreaded. In addition, the culling by scrap tire haulers of worn tires not yet at their end-of-life has occurred since the program's inception in 1991. The majority of culled tires are exported and as such, never enter the recycling system 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, oranges, 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.

Table 2, which follows these descriptions, provides the 2015 results based on the different 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. The reporting category also includes steel and fibre sold as a product to an end use market.

4R Tire Derived Fuel (TDF)

This category comprises not only the rubber but also the 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, which typically represents 50% of the total volume of material diverted to TDF.

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, currently Logger / Skidder Tires.

Table 2 Product Hierarchy Results – 2015

Category	% by weight	Description
3R (Tire Derived Product)	72%	<p>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.</p> <p>Steel: sold to a steel recycler.</p>

Category	% by weight	Description
4R (Tire Derived Fuel)	26%	Rubber, steel, fibre: primarily used for energy recovery in a BC cement kiln with the steel replacing the iron required to make the cement. Of the 26%, 50% is the fibre, a residual from the recycling process.
5R Residuals	1.0%	Material landfilled: waste component of the recycling process and fibre that could not be sold into market.
5R Off Spec	1.0%	Material landfilled: all Logger / Skidder Tires and any other program tires / material that could not be processed.

TSBC supports a mix of TDP and TDF end-use to ensure there is a market for all BC 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. For example, TDF usage was at an all-time low in 2012 due to economic conditions in the cement industry combined with 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. In 2015, TDF volumes were up as a result of tires being diverted to this end use during a 4 week shutdown at Western Rubber because of a significant plant upgrade. The diversion allowed tires to continue to flow during the shutdown, critical to the continuity of the program and its stakeholders.

With 50% of the TDF volume being fibre, a residual from the recycling process, the volume of whole tires and shred directed to TDF still remains low. TSBC is working with industry through its Research and Development program to find TDP solutions for the fibre. Initial research looks promising with additional testing and a pilot project application scheduled in 2016.

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 2015 are summarized in Table 3 below.

Table 3 Product Sold and Recovery Rates – 2015

Tire category	Units Sold	Units collected and delivered to a processor	Recovery Rate
Passenger & Light Truck	3,404,208	2,665,667	78%
Medium Truck	318,670	277,183	87%
Large Agricultural	13,447	11,015	82%
Logger / Skidder	3,217	1,703	53%
Total	3,739,542	2,955,568	79%

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 35% of annual tire sales, this can have a significant impact when comparing sales to collections. As in 2014, there was a concerted effort by new car dealers to offer for sale and include in the payments, 4 new winter tires with every purchase or lease.

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. One 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 believes the Recovery Rate is only one of two measures available to assess the program’s effectiveness. As such, TSBC also reports 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 eight 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 (ADF), commonly referred to as an eco fee. It is a condition of registration with TSBC that retailers remit 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. The fees in 2015 for the different tire types, shown in Table 4 below, have not increased since 2008.

Table 4 Advance Disposal Fees – 2015

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

Other OTR tires are excluded from the Recycling Regulation because until recently there were very limited recycling solutions for these larger tires. In 2016, TSBC will be conducting an analysis to better understand the volumes and recycling costs of the non program OTRs with the intent to seek regulation with the support of the affected stakeholders.

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

Program revenues and expenses are provided in TSBC’s 2015 independently audited financial statements, included as [Appendix A](#) and posted with this [Annual Report on TSBC’s website](#).

9. Plan Performance

TSBC is currently operating under its [2013-2018 Stewardship Plan](#), approved by the Ministry on June 28, 2014. In this plan, TSBC set several new performance measures and targets, as reported below.

Table 5 Plan Performance – 2015

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% Collection Rate (Total # Units Collected / Total # Units Available for Collection)	a) 79% Recovery Rate b) 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.
3. Breakdown of total tonnes processed: a) 3R – 71% b) 4R – 21%	a) 72% – 3R (rubber and steel recycled into products) b) 26% – 4R (rubber and fibre for energy recovery) Broken down as follows: <ul style="list-style-type: none"> • 13% fibre • 13% whole tires or shred 	N/A 4R: It is important to note that 50% of the volume directed to TDF is fibre, a residual from the tire recycling process. TSBC could have directed this material to 5R in order to meet its target but this is contrary to the intent of the 5R hierarchy. The % of tires diverted to TDF in 2015 is up 2% from 2014 due to flows being directed to Lehigh during a 4-week shutdown for a plant upgrade by Western – see Section 6 for details.

Performance Targets (as agreed with Ministry)	Performance	Remediation Strategies (if requirement or target not met)
c) 5R (Residual) – 7%	c) 1% – 5R (residuals and fibre from 3R process landfilled)	5R: This low percentage is due to a concerted effort by the processor to minimize waste and find 3R and 4R uses for the material.
d) 5R (Off Spec) – 1%	d) 1% – 5R (landfill of off spec regulated tires that cannot currently be processed into 3R or 4R)	5R: In 2015, only a very small portion of the program tires were still unable to be processed (294 tonnes).
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	1,886 collection sites	Please see Section 4 for a detailed explanation and Appendix B for a copy of the Audit Report.
5. a) 500 Return to Retailer (R2R) locations b) 2 Return to Retailer (R2R) locations per Regional District	a) 828 R2R locations b) All Regional Districts have at least 2 R2R locations	N/A
6. 15 collection events	15 collection events – please see Table 1 for details	N/A
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	4 legitimate collection complaints received <ul style="list-style-type: none"> • This equates to 0.1% of the 3,601 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	No complaints recorded	N/A

Performance Targets (as agreed with Ministry)	Performance	Remediation Strategies (if requirement or target not met)
10. Under \$5 / PTE* program cost *Passenger Tire Equivalent	\$4.59 / PTE	N/A
11. To ensure program stability, no less than 6 months of operational cost in reserve	As of December 31, 2015, 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 2015	N/A
13. Delivery of OTR Processing Options Report to Ministry by July 1, 2015	Submitted - please see Appendix D	N/A

Appendix A: 2015 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 statement of financial position as at December 31, 2015 and the statements of operations, changes in net assets, and cash flows for the year then ended, 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 audit. We conducted our audit 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 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, 2015 and its results of operations and its cash flows for the year then ended 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.

Collins Barrow Victoria Ltd.

CHARTERED PROFESSIONAL ACCOUNTANTS

June 8, 2016
Victoria, B.C.

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Tire Stewardship BC
2015 Report to Director, Waste Prevention

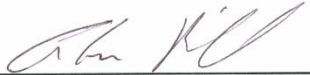
Tire Stewardship B.C. Association
Statement of Financial Position

As at December 31	2015	2014
	\$	\$
ASSETS		
Current Assets		
Cash	1,653,261	1,727,994
Accounts receivable	2,035,408	1,724,082
	3,688,669	3,452,076
Investments (note 2)	10,641,495	11,743,637
Intangible Asset (note 3)	188,983	-
	14,519,147	15,195,713
LIABILITIES		
Current Liabilities		
Accounts payable and accrued liabilities (note 4)	2,602,767	2,953,381
NET ASSETS (NOTE 5)		
Unrestricted	-	-
Restricted		
Program Reserve	11,916,380	12,242,332
	14,519,147	15,195,713
COMMITMENTS (NOTE 6)		

Signed by Directors on behalf of the Board:



 Director



 Director

**Tire Stewardship BC
2015 Report to Director, Waste Prevention**

**Tire Stewardship B.C. Association
Statement of Operations**

For the Year Ended December 31	2015	2014
	\$	\$
REVENUE		
Advance Disposal Fees	20,184,134	19,197,235
Investment Income (note 2) -		
From Cash and Cash Equivalents	6,758	19,941
From Fixed Income Securities and Equities	161,407	703,956
Less Investment Management Fees	(60,254)	(58,564)
Total Revenue	20,292,045	19,862,568
EXPENSES		
Program Incentives	18,471,378	17,669,281
Administration		
Program Management	1,223,464	1,239,183
Communications and Education	281,674	374,253
Community Grant Program	386,206	683,600
Professional Fees	85,106	72,990
Board Expenses and Travel	170,169	175,296
Total Expenses	20,617,997	20,214,603
DEFICIENCY OF REVENUE OVER EXPENSES	(325,952)	(352,035)

**Tire Stewardship BC
2015 Report to Director, Waste Prevention**

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

For the Year Ended December 31

	Unrestricted	Restricted	2015	2014
		Program Reserve	Total	Total
	\$	\$	\$	\$
Net Assets - Beginning of year	-	12,242,332	12,242,332	12,594,367
Deficiency of Revenue over Expenses	(325,952)	-	(325,952)	(352,035)
Transfers (note 5)	325,952	(325,952)	-	-
NET ASSETS - END OF YEAR (NOTE 5)	-	11,916,380	11,916,380	12,242,332

**Tire Stewardship BC
2015 Report to Director, Waste Prevention**

**Tire Stewardship B.C. Association
Statement of Cash Flows**

For the Year Ended December 31	2015	2014
	\$	\$
CASH PROVIDED FROM (USED FOR):		
OPERATING ACTIVITIES		
Deficiency of revenue over expenses	(325,952)	(352,035)
Items not affecting cash -		
Amortization of intangible asset	11,117	-
Realized loss (gain) on sale of investments	20,688	(151,762)
Unrealized loss (gain) on investments	240,128	(167,558)
Changes in non-cash working capital balances related to operations -		
Accounts receivable	(311,326)	174,364
Accounts payable and accrued liabilities	(350,614)	588,288
	(715,959)	91,297
INVESTING ACTIVITY		
Proceeds from sale of investments	4,507,028	4,690,709
Purchase of investments	(3,665,702)	(5,031,897)
Purchase of intangible asset	(200,100)	-
	641,226	(341,188)
DECREASE IN NET CASH	(74,733)	(249,891)
Net Cash - Beginning of year	1,727,994	1,977,885
NET CASH - END OF YEAR (NOTE 1)	1,653,261	1,727,994

Tire Stewardship B.C. Association
NOTES TO FINANCIAL STATEMENTS
For the Year Ended December 31, 2015

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 2013-2017 Stewardship Plan was approved by the Ministry on June 28, 2013.

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 B.C. must be registered.

1. 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 5, 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.

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.

1. SIGNIFICANT ACCOUNTING POLICIES (continued)

Intangible Asset

Intangible asset consists of software and is accounted for at cost. Amortization is based on its useful life using the straight-line method. The amortization method and the estimate of the useful life of the intangibles are reviewed annually. Intangibles are tested for impairment when events or changes in circumstances indicate that the carrying value may not be recoverable. Impairment of an intangible asset is recognized in an amount equal to the difference between the carrying value and the fair value of the related intangible asset. TSBC utilizes a direct valuation approach in determining the fair value of intangible assets.

Research and development

Research costs are expensed in the period incurred. Development costs are expensed in the period incurred unless, in the opinion of management, the deferral criteria set forth by the CPA Canada Handbook – Accounting are satisfied in all material respects, in which case development expenditures are capitalized and amortized over the estimated life of the related products.

Intangible Asset impairment

The carrying value of the intangible asset may be written down to recognize a reduction in its recoverable amount to its fair value. The impairment is measured by comparing the carrying value of the intangible asset to the fair value, based on the present value of undiscounted future cash flows expected to be generated from the intangible asset. An impairment charge is recorded in net income. Impairment charges are not reversed if there is a subsequent increase in its fair value.

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 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 fixed income securities and equities.

1. SIGNIFICANT ACCOUNTING POLICIES (continued)

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.

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.

2. INVESTMENTS

	2015	2014
	\$	\$
Cash and cash equivalents, at amortized cost	397,776	228,041
Fixed income securities, measured at fair value	7,522,544	8,506,471
Equities, measured at fair value	2,721,175	3,009,125
Investments	10,641,495	11,743,637

Investment income is comprised of interest income of \$399,852 (2014 – \$366,184), dividends of \$29,129 (2014 – \$38,393), realized loss of \$20,688 (2014 – gain of \$151,762), unrealized loss of \$240,128 (2014 – gains of \$167,558), less investment management fees of \$60,254 (2014 – \$58,564).

3. INTANGIBLE ASSET

	2015	2014
	\$	\$
Software (net of amortization)	188,983	-

The software is being amortized on a straight-line basis over three years. The amount of amortization included in the statement of operations for this intangible asset was \$11,117 (2014 – \$nil).

4. GOVERNMENT REMITTANCES

Accounts payable and accrued liabilities include Goods and Services Tax payable of \$121,430 (2014 – \$121,562).

5. NET ASSETS

TSBC's board of directors approved a transfer from the Program Reserve to the Unrestricted Reserve in the amount of \$325,952.

5. NET ASSETS (continued)

Unrestricted Net Assets:

- Funds the operational expenses of TSBC, are not externally restricted and are available for general use.

Program 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, or other contingencies with the potential financial consequences that may arise if such events were to occur.
- Ensures funds are available to fund research and development activities and other initiatives needed to sustain a tire-recycling program in the province of British Columbia.

6. COMMITMENTS

As at December 31, 2015, whole tires and unsold product at registered processor facilities were estimated at 778,408 (2014 – 784,252) passenger tire equivalents (“PTE”). The incentive payments to processors could amount to a future liability of up to \$2,342,438 (2014 – \$2,572,760). TSBC has entered into an agreement for the provision of management and administrative services to June 28, 2018.

7. FINANCIAL INSTRUMENTS

TSBC’s financial instruments consist of cash and cash equivalents, accounts receivable, investments (note 2), 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, 2015.

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.

7. 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 fixed income securities and equities for which the values fluctuate with the quoted market price and interest rates.

8. COMPARATIVE FINANCIAL STATEMENTS

Certain comparative figures have been reclassified to be consistent with the presentation adopted in the current year.

Appendix B : 2015 Non Financial Information Audit Report



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INDEPENDENT REASONABLE ASSURANCE REPORT

To the Members of Tire Stewardship B.C. Association

We have been engaged by the management of Tire Stewardship B.C. Association (the "Stewardship Agency") to perform a reasonable assurance engagement in respect of the following information, detailed within the Stewardship Agency's Annual Report to the Ministry of Environment and in Attachment 1, for the year ended December 31, 2015 (together the "Subject Matter"):

- 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 B.C. Regulation 449/2004 (the "Recycling Regulation");
- The description of how the recovered product was managed in accordance with the pollution prevention hierarchy in accordance with Section 8(2)(d) of the Recycling Regulation;
- The total amount of the producer's product sold and collected and the producer's recovery rate in accordance with Section 8(2)(e) of the Recycling Regulation; and,
- Performance for the year in relation to approved targets under Section 8(2), (b), (d) and (e) in accordance with Section 8(2) (g) of the Recycling Regulation.

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), (d), (e) and (g) of the Recycling Regulation.

RESPONSIBILITIES

Management is responsible for the preparation and fair presentation of the Subject Matter in accordance with the evaluation criteria as listed in Attachment 1 and for such internal control as management determines is necessary to enable the preparation of the Subject Matter such that it is free from material misstatement, whether due to fraud or error.

Our responsibility in relation to the Subject Matter is to perform a reasonable assurance engagement and to express an opinion based on the work performed and evidence obtained. Our opinion does not constitute a legal determination on the Stewardship Agency's compliance with the Recycling Regulation.

EVALUATION CRITERIA

Management is responsible for the preparation of suitable evaluation criteria in accordance with the *Guide to Third Party Assurance for Non-Financial Information in Annual Reports - 2015 Reporting Year*, dated February 2016 as specified by the Director under Section 8(2)(h) of the Recycling Regulation. 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 ASSURANCE ENGAGEMENT

We carried out our reasonable assurance engagement in accordance with the International Standard on Assurance Engagements 3000 ("ISAE 3000"), Assurance Engagements other than Audits or Reviews of Historical Financial Information, published by the International Federation of Accountants.





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INDEPENDENT REASONABLE ASSURANCE REPORT (continued)

This standard requires that we comply with the independence and other ethical requirements of the International Ethics Standards Board for Accountants Code and that we apply International Standard on Quality Control 1. ISAE 3000 also requires that we plan and perform the engagement to obtain reasonable assurance about whether the Subject Matter is free from material misstatement. A reasonable assurance engagement includes examining, on a test basis, evidence supporting the amounts and disclosures within the Subject Matter. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement in the Subject Matter, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the Subject Matter in order to design assurance procedures that are appropriate in the circumstances, but not for purpose of expressing a conclusion on the effectiveness of the entity's internal control.

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;
- Testing relevant controls, transactions and source records on a sample basis;
- Agreeing the number and changes in the number of collection facilities to supporting documentation;
- Inspecting source documentation for proper classification of collection facilities and other registered retailers on a test basis;
- Confirming the existence and location of collection facilities and other registered retailers on a test basis;
- Confirming the total amount of producer's product sold and collected during the year on a test basis;
- Agreeing the total amounts of the producer's product sold and collected and processor's product end-fate during the year to source records on a test basis;
- Confirming the total weight of each category of product end-fate during the year with processors on a test basis;
- Agreeing data used in calculations to source records on a test basis;
- Re-performing calculations on a test basis including the recovery rate and product end-fate percentage calculations;
- Inspecting a sample of the Stewardship Agency's compliance and education program review results to obtain assurance over self-reported data;
- Agreeing the applicable Annual Report target data to the approved stewardship plan to ensure completeness and consistency; and
- Reviewing the consistency of the Subject Matter with the related disclosures in the Annual Report.

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

INHERENT LIMITATIONS

Non-financial performance information is subject to more inherent limitations than financial information, given the characteristics of the Subject Matter and the methods used for determining and calculating such information. Qualitative interpretations of relevance, materiality, and the accuracy of data are subject to individual assumptions and judgements. Furthermore, the nature and methods used to determine such information, as well as the evaluation criteria and the precision thereof, may change over time. Accordingly, it is important to read our report in the context of the evaluation criteria.





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INDEPENDENT REASONABLE ASSURANCE REPORT (continued)

OPINION

In our opinion, the Subject Matter within the Stewardship Agency's Annual Report for the year ended December 31, 2015 presents fairly in accordance with the evaluation criteria, in all material respects:

- 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;
- The description of how the recovered product was managed in accordance with the pollution prevention hierarchy under Section 8(2)(d) of the Recycling Regulation;
- The total amounts of the producer's product sold and collected and the producer's recovery rate in accordance with Section 8(2)(e); and
- The performance for the year in relation to approved targets under Sections 8(2) (b), (d) and (e) in accordance with Section 8(2) (g) of the Recycling Regulation.

OTHER MATTERS

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.

Collins Barrow Victoria Ltd.

CHARTERED PROFESSIONAL ACCOUNTANTS

Victoria, BC Canada
June 28, 2016

Attachment 1

**Tire Stewardship B.C. Association (“TSBC”) Assurance / Evaluation Criteria
For Data From Reporting Year Ended December 31, 2015**

Collection Facilities

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

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Reference (Page # / Table #)
Number and Location of Collection Facilities	Page 8, Section 4 and Page 16, Table 5
Change in Number and Location of Collection Facilities	Page 8, Section 4

Evaluation Criteria

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, 2015.
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.

Product Management (End of Fate)

Assessment of the description of how the recovered product was managed in accordance with the pollution prevention hierarchy under Section 8(2)(d) of the Recycling Regulation

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Reference (Page # / Table #)
3R Tire Derived Product	Page 11, Table 2 and Page 15, Table 5
4R Tire Derived Fuel	Page 12, Table 2 and Page 15, Table 5
5R Residuals	Page 12, Table 2 and Page 16, Table 5
5R Off Spec	Page 12, Table 2 and Page 16, Table 5

Evaluation Criteria

The following evaluation criteria were applied to the assessment of the description of how the recovered product was managed in accordance with the Pollution Prevention Hierarchy under Section 8(2)(d) of the Recycling Regulation.

Attachment 1 (continued)

**Tire Stewardship B.C. Association (“TSBC”) Assurance / Evaluation Criteria
For Data From Reporting Year Ended December 31, 2015**

TSBC manages products in accordance with the “Pollution Prevention Hierarchy”, i.e., recycle (“3R”), before energy recovery (“4R”), before residual disposal (“5R”), and reports on volumes in each of the 3R, 4R and 5R categories.

1. 3R Tire Derived Product (“TDP”)

This category includes the rubber, steel and fibre components that have been recycled and sold to market. It does not include rubber, steel or fibre that is in inventory at the processor’s site for sale or disposal at a later date.

The number of tonnes is recorded on Processing Incentive claims substantiated by Processor’s sales invoices to customers.

2. 4R Tire Derived Fuel (“TDF”)

This category comprises the rubber, steel and fibre components of whole tires and shred used for energy recovery, in addition to fibre extracted in the recycling process.

Shred & Fibre: The number of tonnes is recorded on Processing Incentive claims substantiated by Processor’s sales invoices to customers.

Whole Tire: The number of tonnes is recorded on Processing Incentive claims substantiated by the user’s Tire Burn Report adjusted for volumes of import tires received during the same period.

3. 5R Residuals

This category 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 a landfill.

The number of tonnes is recorded on Processing Incentive claims substantiated by shipping documents to the landfill and copies of weigh scale tickets.

4. 5R Off Spec

This category includes regulated tires that cannot be diverted to a 3R or 4R use and is ultimately disposed of at landfill, such as Logger / Skidder tires and cut tires.

The number of tonnes is recorded on Processing Incentive claims substantiated by shipping documents to the landfill and copies of weigh scale tickets.

Recovery Rate

Assessment of the description of total amounts of the producer’s product sold and collected and the producer’s recovery rate in accordance with Section 8(2)(e) of the Recycling Regulation

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed	
Disclosure per annual report	Reference (Page # / Table #)
Units Sold = 3,739,542 units	Page 13, Table 3
Units Collected = 2,955,568 units	Page 13, Table 3
Recovery Rate (Units Collected / Units Sold) = 79%	Page 13, Table 3 and Page 15, Table 5

**Attachment 1 (continued)
Tire Stewardship B.C. Association (“TSBC”) Assurance / Evaluation Criteria
For Data From Reporting Year Ended December 31, 2015**

Evaluation Criteria

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) 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.
 - c. The number of units collected and sold are self-reported data that are subject to reviews of their completeness and accuracy on a sample basis under TSBC’s Compliance and Education program. In 2015, 179 (2014-257) retailers were subjected to such reviews.

Performance for the Year

Assessment of the description of performance for the year in relation to targets in the approved stewardship plan under Section 8(2) (b), (d) and (e) of the Recycling Regulation

Specific Disclosures in the annual stewardship report for which evaluation criteria were developed		
Disclosure per annual report	Targets in approved stewardship plan	Reference (Page # / Table #)
Collection Facilities: 8(2)(b)		
Number and Location of Collection Facilities	1,700	Page 8, Section 4 and Page 16, Table 5
Change in Number and Location of Collection Facilities	No Target	Page 8, Section 4
End of Fate: 8(2)(d)		
3R Tire Derived Product	71%	Page 11, Table 2 and Page 15, Table 5
4R Tire Derived Fuel	21%	Page 12, Table 2 and Page 15, Table 5
5R Residuals	7%	Page 12, Table 2 and Page 16, Table 5
5R Off Spec	1%	Page 12, Table 2 and Page 16, Table 5
Recovery Rate: 8(2)(e)		
Units Sold	No Target	Page 13, Table 3
Units Collected	No Target	Page 13, Table 3
Recovery Rate (Units Collected / Units Sold)	84%	Page 13, Table 3 and Page 15, Table 5

Attachment 1 (continued)

**Tire Stewardship B.C. Association ("TSBC") Assurance / Evaluation Criteria
For Data From Reporting Year Ended December 31, 2015**

Evaluation Criteria

The following evaluation criteria were applied to the assessment of the description of performance for the year in relation to targets in the approved stewardship plan under Section 8(2)(b), (d) and (e) of the Recycling Regulation.

- All stewardship plan targets relating to Section 8(2)(b), (d) and (e) of the Recycling Regulation have been identified and disclosed in the annual report;
- The expected outcomes and target dates as included in the annual report are consistent with the targets in the approved stewardship plan; and
- The facts disclosed in the annual update on progress are supportable by evidence, neutral and understandable.

Appendix C: Collection Volumes by Tire Type by Regional District

Tire Stewardship BC					
Tire Capture by Tire Type by Regional District (tonnes)					
Date Range: Jan. 1, 2015 - Dec. 31, 2015					
Regional District	PLT	MT	AG	LS	Total
AL-CL Alberni-Clayoquot	243	139	2	0.2	384
BK-NK Bulkley-Nechako	535	535	15	45	1,129
CAPTL Capital	1,467	222	14	2	1,705
CARBO Cariboo	707	575	14	60	1,356
CENCO Central Coast	29	2	0.4	0.1	32
CKOOT Central Kootenay	604	170	3	7	784
CO-SC Comox-Strathcona	830	306	10	5	1,150
COKAN Central Okanagan	1,777	386	18	4	2,185
COLSS Columbia-Shuswap	631	257	13	10	912
COWVY Cowichan Valley	1,105	242	17	4	1,369
EKOOT East Kootenay	673	431	7	30	1,141
FFGEO Fraser-Ft. George	1,093	1,414	31	26	2,564
FN-LD Fort Nelson-Liard	184	244	3	11	441
FRVLY Fraser Valley	2,282	2,030	96	12	4,419
GRVAN Greater Vancouver	9,428	4,495	164	7	14,094
KIT-S Kitimat-Stikine	541	162	10	4	717
KOOTB Kootenay-Boundary	302	67	3	1	373
MTWAD Mt. Waddington	81	85	2	1	168
NANMO Nanaimo	850	240	12	3	1,105
NOKAN North Okanagan	972	348	14	23	1,357
OK-SM Okanagan-Similkameen	938	186	12	2	1,137
PEACR Peace River	1,044	911	26	36	2,018
POWLR Powell River	102	45	1	1	148
SK-QC Skeena-Queen Charlotte	117	15	2	0	134
SQ-LI Squamish-Lillooet	494	120	5	3	622
SUNCO Sunshine Coast	206	36	3	0	244
TH-NI Thompson-Nicola	1,590	1,584	34	45	3,253
GRAND TOTALS	28,822	15,247	531	341	44,940

Definitions:

PLT = Passenger Tires, Light Truck Tires, ATV Tires

MT = Medium Truck Tires

AG = Agricultural Tires

LS = Logger Skidder Tires

Appendix D: OTR Processing Options – Status Report

Introduction

TSBC has actively researched the recycling of BC's Off-the-Road (OTR) tires since 2010 and reported the status of that research in its Stewardship Plan and its last three Annual Reports.

The research continues to point to two distinct tiers of non-program OTRs:

- Small, medium and large (SML) 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.

Non-program small, medium and large (SML) OTRs

Over the last 12 months, TSBC has received indications from both retailers and processors that the SML OTRs should be regulated to level the playing field for OTR tire consumers, and to secure the volumes necessary to allow economies of scale for processing.

TSBC has already spoken with Ministry of Environment staff to understand more about the process of regulating these tires. TSBC understands and appreciates the key to adding these tires to the BC Recycling Regulation is consultation with all affected stakeholders, with initial support to pursue regulation from the retailers that supply these tires into the marketplace and the industries that use them. However, prior to any formal consultation with industry on regulating these tire types, TSBC needs to better understand the costs associated with collecting and processing SML OTRs, now and in the future. Currently TSBC is working with industry to gather this information.

Initial research shows that today, a significant number of non-program SML OTRs are being sheared and transported to landfill in Washington State by Western Rubber Products (Western). Additional research was done through the Ambassador Program and is continuing as part of the 2016 Program. TSBC canvassed retailers to learn more about the number of retailers that sell these tires, the current method of disposal and costs, whether the costs are passed on to the end user or absorbed by the retailer, and the appetite for a regulated program. The results indicate that most of these tires are being directed to Western and that there is no consistency as to which party is paying the cost, i.e., the retailer or the end user. Survey results to date indicate strong support for a regulated program.

From a processing perspective, Western has completed Phases 1 and 2 of its plant upgrade with a significant investment in equipment and technology to create cost and processing efficiencies. Phase 3 will be complete by August 2016. The new equipment will allow Western to process the majority of the current volume of non-program SML OTRs.

Non-program giant OTRs

In prior reports, TSBC indicated that two companies were actively looking at working with industry under a voluntary program to process the giant OTRs generated in BC and Alberta:

1. Kal Tire in partnership with Liberty Tire – to process the tires into various gradations of shred and crumb rubber for the Tire Derived Aggregate (TDA), Tire Derived Product (TDP) and Tire Derived Fuel (TDF) markets.
2. Titan Reclamation Services – to process the tires into steel, oil and gas and carbon black using pyrolysis technology.

Since TSBC's last report both projects have launched, with the Titan project starting in early May in Fort McMurray, Alberta and the Liberty tire plant in Alberta has just started accepting giant OTRs from Kal Tire for processing into TDA.

TSBC's Next Steps

1. Continue research of current flow, volumes and costs related to the collection and processing of SML OTRs in conjunction with key stakeholders with the intent of seeking regulation.
2. Maintain a watching brief on processing options for BC's giant OTR tires.
3. Continue discussions with Alberta on the nature and extent of harmonizing the OTR tire stewardship programs.
4. Continue dialogue with industry on the regulation of SML OTRs.

Appendix E: Report on Measures to Reduce Abandoned Waste

Introduction

In its current Stewardship Plan, TSBC committed to work with Regional Districts to find ways to reduce the impact of abandoned tires on their waste management operations and to report progress annually. This is TSBC's progress report.

Status of Research

In 2015, local government undertook a survey to determine which communities in BC are currently collecting data related to abandoned waste. The results indicated only a small number had integrated data collection into their clean up processes, which led to taking existing data sets to highlight what stewarded products were most prevalent from an illegal dumping perspective. From this research, a Working Group was created that comprises stewards, including TSBC, and local government (Metro Vancouver and CRD). The Working Group met in September and again in November

Although these meetings have not produced any specific outcomes, both the stewards and local government recognize a collaborative strategy is the most desirable to preventing abandoned waste / illegal dumping. Outstanding matters include the role each party should play and where the cost should fall. The next key steps are to examine the root causes of abandoned waste / illegal dumping to guide further actions, such as innovative solutions for by-law enforcement, new educational / marketing campaigns and alternative collection options, such as municipal large item pick-up programs.

Ongoing Efforts to Reduce Illegal Dumping

Return to Retailer

TSBC's [Return to Retailer](#) (R2R) program continued to grow in 2015, with an additional 144 retailers agreeing to participate in this voluntary program. The number of R2R locations in urban areas is significant, indicating that if tires are still being dumped in urban environments, it is behavioural change – not the addition of more drop off locations – that needs to occur as part of reducing / eliminating this activity.

Tire collection events

These events are included as a target in TSBC's current stewardship plan. In 2015, they were again held in both urban and rural environments with over 10,000 tires collected. This approach will continue in 2016.

Education

With three other stewardship agencies, TSBC co-sponsored the production and delivery of the [Voices of Nature](#) concerts in 2015. *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 their families. The program focuses on environmental stewardship, sending a strong message that the key to protecting nature in our daily lives is by reducing and managing waste. The program is developed and delivered by the [Artist Response Team](#) from Vancouver.

Ambassador Program

In 2015, TSBC partnered with the BC Used Oil Management Association in its 10th annual [Ambassador Program](#). Through this program, TSBC engages retailers and the public directly in discussions about the BC tire recycling program's successes, issues, and opportunities for improvement. In 2015, the tour's focus was to promote and educate all stakeholders on BC Recycles, the one stop shop for locating drop off locations for stewarded products. As in prior years, the students were successful in recruiting more R2R sites for TSBC, bringing the total at the end of 2015 to 828 sites throughout the province.

The success of this program's outreach and the ability to connect one on one with stakeholders has resulted in TSBC participating in the 2016 Ambassador Program.

Next Steps

1. Working Group

TSBC will continue to be part of the Working Group and work towards a collaborative strategy with other stewards and local government to address the challenges associated with illegally dumped tires in both urban and rural environments.

2. R2R recruitment, tire collections events and education

TSBC will continue these activities in 2016. However, until there is a baseline available for TSBC to better understand and quantify the problems they are intended to address, the success of these efforts cannot be measured. For this reason, any discussions on additional or alternative efforts are on hold.