

**Annual Report to the Director
2023**



Submitted to:

Director
Extended Producer Responsibility
Environmental Protection Division
Ministry of Environment & Climate Change Strategy
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Tire Stewardship BC

Annual Report to the Director

2023

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1. Executive Summary

Products within plan	Tires
Program website	www.tsbc.ca

Recycling Regulation Reference	Topic	TSBC – 2023 Summary Report
Part 2, section 8(2)(a)	Public Education Materials and Strategies	<ul style="list-style-type: none"> • TSBC continued its educational campaign in 2023 and was pleased to bring back the Ambassador Team to attend community events. In addition, TSBC ran scrap tire collection events throughout the province. With the creativity of TSBC’s team, the awareness campaign included messaging through channels such as: <ul style="list-style-type: none"> • TV (new in 2023) and bus ads in key markets identified by either population or need; • Advertorials in key markets; • A strong online presence that included social and digital media; • Numerous blog posts on the TSBC web site; and • The annual Community Grant Program to incent the use of BC rubber in qualified projects across the province (10 in 2023).
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 acceptance of their replaced tires through BC retailers when they purchased new ones. Tires not left with the retailer at that time, known as “orphan” tires, were also captured through: <ul style="list-style-type: none"> • The Return to Retailer (R2R) Program, whereby retailers currently accept up to 4 tires from each member of the public; and • 14 Scrap Tire Collection Events that were held throughout BC in 2023. • Scrap tires were also collected by haulers for the program from other registered sites that either generate or have tires available for collection, such as landfills, auto wreckers, small auto body shops and garages.
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 remained challenging given the durable structure of a tire, designed to ensure safety and a long road life.

Recycling Regulation Reference	Topic	TSBC – 2023 Summary Report
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 2023, 87% of the total tonnes of rubber processed were recycled.
Part 2, section 8(2)(e) Part 2, section 8(2)(e.1)	Recovery Rate and Product Sold and Collected	<ul style="list-style-type: none"> • The 2023 “Recovery Rate” was 97% across all regulated tire types. See the Non-Financial Information Audit Report in Appendix B. • See the breakdown of Collection Volumes by Tire Type by Regional District in Appendix C.
Part 2, section 8(2)(f)	Summary of Deposits, Refunds, Revenues and Expenses	<ul style="list-style-type: none"> • TSBC’s Independently Audited Financial Statements are referenced in Section 8 and included as Appendix A to this report.

Plan Performance – 2023

As TSBC’s Extended Producer Responsibility Plan for the period September 20, 2021 to September 19, 2026 has not yet been approved by the Ministry, the targets referenced below are from the prior Plan.

Performance Measures (as agreed with the Ministry)		Annual Targets			Performance																																			
1.	Recovery Rate <u>(Total # Units Collected in reporting year / Total # Units Sold 5 years prior to reporting year)</u>	90%			97%																																			
2.	The percentage allocation of total tonnes of scrap tires (i.e. all rubber, steel and fibre) <u>processed and shipped</u> Note: on average, rubber accounts for 70% of the total tire weight, with 15% steel and 15% fibre	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="background-color: #1a3d4d; color: white;">Recycling</th> <th style="background-color: #1a3d4d; color: white;">Energy Recovery</th> <th style="background-color: #1a3d4d; color: white;">Landfill</th> </tr> </thead> <tbody> <tr> <td>Rubber</td> <td style="text-align: center;">88%</td> <td style="text-align: center;">11%</td> <td style="text-align: center;">1%</td> </tr> <tr> <td>Steel</td> <td style="text-align: center;">100%</td> <td></td> <td></td> </tr> <tr> <td>Fibre</td> <td></td> <td style="text-align: center;">98%</td> <td style="text-align: center;">2%</td> </tr> </tbody> </table>				Recycling	Energy Recovery	Landfill	Rubber	88%	11%	1%	Steel	100%			Fibre		98%	2%	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="background-color: #1a3d4d; color: white;">Recycling</th> <th style="background-color: #1a3d4d; color: white;">Energy Recovery</th> <th style="background-color: #1a3d4d; color: white;">Landfill</th> </tr> </thead> <tbody> <tr> <td>Rubber</td> <td style="text-align: center;">87%</td> <td style="text-align: center;">11%</td> <td style="text-align: center;">2%</td> </tr> <tr> <td>Steel</td> <td style="text-align: center;">100%</td> <td></td> <td></td> </tr> <tr> <td>Fibre</td> <td></td> <td style="text-align: center;">100%</td> <td></td> </tr> </tbody> </table>					Recycling	Energy Recovery	Landfill	Rubber	87%	11%	2%	Steel	100%			Fibre		100%	
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Performance Measures (as agreed with the Ministry)		Annual Targets	Performance
3.	Number of collection sites (i.e. registered retailers that will take back a scrap tire from the consumer at the time a new tire is sold)	1,850	2,077
4.	a) Total number of retailers and generators in BC that take back orphan tires (R2R) b) Number of R2Rs in each Regional District	a) 800 province-wide b) At least 25% of registered retailers in each Regional District are R2R locations	a) 783* b) Achieved
5.	Education and Awareness a) Awareness of where to take scrap tires for safe disposal b) Awareness of where to go to find information on safe disposal locations	a) 61% b) 77%	a) 50%** b) 64%**

* See [Section 4 / Collection System and Facilities](#) for further discussion on these results.

** See [Section 3 / Consumer Education and Awareness](#) for further discussion on these results.

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 & Climate Change Strategy approved [Extended Producer Responsibility Plan](#) and the [BC Recycling Regulation](#).

The society is governed by a Board 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 (producers) including online sales as well as 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, and a reserve fund. In 2023, of the \$25M collected in eco-fees, \$27M was paid out in Transportation, Processing and Manufacturing Incentives, representing 92% of all expenses, and \$250,000 was awarded in grants for 10 projects in communities throughout BC. TSBC experienced another deficit year in 2023 and to rectify this, the eco fee on Passenger & Light Truck Tires was increased, effective January 01, 2024, to reflect the rising costs in every line item of the business.

TSBC operates a retail-based collection system. Most 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 collection events throughout the year and/or at 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 website. The R2R location information is also available through the Recycling Council of BC's [Recyclepedia](#) (web and mobile app)

After tires are collected, the majority are recycled into products by [Liberty Tire Recycling](#) located in Delta with the remainder used for energy recovery. 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](#) continues to

grow, expanding six-fold since 2009 with further growth anticipated as the recycled rubber manufacturer, [North West Rubber](#), expands its operation in Abbotsford.

All scrap tires collected are recycled right here in BC due in part to the success and growth of the Delta recycler, Liberty Tire Recycling, and the Abbotsford manufacturer, North West Rubber. Both companies have made significant investments in recent years to grow their capability, capacity and product lines and they continue to do so, strengthening their position in a competitive marketplace. Of the volume recycled, 56% is made into product in BC with the rest shipped to markets in North America. TSBC seeks to work with the recycler and the manufacturing sector to increase that percentage by encouraging the growth of the BC recycled rubber product sector by way of the Manufacturing Incentive Program.

3. Public Education Materials and Strategies

TSBC continues to focus its stakeholder outreach on a broad education and communication campaign, raising consumer awareness on “what happens to the money” and “what happens to the tires.”

The TSBC website is the main hub for information shared with both the general public and tire retailers with the site successfully acting as a landing point for comprehensive information and materials on tire recycling in BC.

To continue educating and raising consumer awareness, TSBC built on its 2022 program approach. The objective of the program was to increase awareness of tire recycling across BC residents, especially vehicle owners, and to improve their understanding of the connection between scrap tires and their second life. The call to action was to highlight the consumers’ ability to find a recycling location through the TSBC website. The messaging was delivered through TV ads, bus ads, and digital media, supported by social media posts, community engagement through tire collection events, TSBC ambassadors at community events and school programming, and through PR outreach to the media.

In addition to the disposal messaging, TSBC’s communications program focuses on educating the consumer on “Reduce” and “Reuse”, two key Rs in the hierarchy that are often overlooked but critical to the environment now and in the future. Another area of focus was the retailers (producers) with the objective of helping them understand their role and responsibilities in the program, and developing relationships to allow for partnerships when it comes to collection event hosting, additional R2R participants, and potential grant program partners.

The following tools were used to deliver this strategy:

Educational Tools – Paid Media & Earned Media

Through both paid media (TV, bus and digital media ads), and earned media (social media, website, PR outreach), TSBC continues to grow an engaged audience while educating consumers about the benefits of tire recycling in BC. Results are tracked through the results of two consumer awareness surveys, one is a multi-steward SABC survey which is conducted every two years, and the other conducted independently each year in partnership with Interchange Recycling.

Paid Media - In 2023, TSBC implemented TV ads for the first time, supplemented by TV and video ads, which were delivered in markets determined by either population (Metro Vancouver / Vancouver Island) or feedback from local governments that specifically asked TSBC to conduct more education in their regions. Digital advertising included paid search, YouTube ads, and paid social media posts. The TV ads reached over 5 million impressions, and the bus ads reached over 2.5 million impressions. Digital advertising reached a total of over 6 million impressions in 2023.

Earned Media - TSBC continued to work with a PR agency to conduct and manage media outreach efforts. This year, their efforts generated 126 news mentions with a potential reach of approximately 10 million. TSBC also garnered 17 broadcast (radio and TV) media mentions with a potential reach of almost 12 million.

TSBC continues to grow its online presence with increased activity on Facebook, Twitter, Instagram, and LinkedIn, as well as through articles shared on the TSBC.ca website. The most engaging content generally involves playground projects completed through the TSBC Community Grant Program, tire collection events held across BC, and community events and initiatives. Followers are also interested in hearing about industry news and TSBC partnerships.

Educational Tools – [TSBC website](#)

The website design focuses on providing information to two main stakeholder groups: registered participants and the public. For the public, the website informs visitors on:

- [Recycling drop off locations \(R2R location finder\);](#)
- [Community Events and Programs;](#)
- [Community Grant Program;](#)
- [News and Updates;](#)
- [Tire Recycling in BC;](#) and
- [Extended Producer Responsibility \(stewardship\) Plans and Annual Reports.](#)

Educational Tools – 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](#). In 2024, TSBC developed its own location finder on the TSBC web site. Funding will still be provided to RCBC but limited to only those inquiries handled directly by RCBC's suite of tools. These tools are excellent resources for the consumer, particularly for information on tire drop off locations, and by supporting RCBC this helps provide the one-stop-shop for citizens of BC looking for information on where to recycle their waste. TSBC also contributes to and supports the BC Recycles website, a Stewardship Agencies of BC (SABC) initiative.

Educational Tools – Retailer Hub

In 2023, TSBC launched a new webpage called 'Retailer Hub,' serving as an educational platform aimed at engaging and informing tire retailers' owners, accountants, and staff. This comprehensive tool features answers to frequently asked questions, information pertinent to tire retailers (the obligated party under the Regulation), resources and guides outlining the scrap tire recycling program and their involvement, as well as a dedicated section for communication and feedback. This initiative marks another milestone in TSBC's ongoing efforts to establish an effective educational and communication channel between TSBC and retailers. In 2024, TSBC will be launching a monthly retailer newsletter – TireTalk - as another communication channel for key messages to this stakeholder group.

TSBC also engages with the public in the ways detailed below.

Educational Program – Event Ambassador Tour

In 2023, TSBC partnered with a PR agency to conduct an ambassador tour across the province, aimed at raising awareness for the TSBC scrap tire recycling program. From June 1 to August 31, two TSBC ambassadors traveled throughout the province, representing TSBC at targeted events and Return-to-Retailer (R2R) locations. Their objective was to inform the public about the R2R program, showcase available online educational resources, and provide insights into the tire recycling process and its impact.

The PR agency designed an eye-catching booth for the tour to attract event attendees visually. Throughout the tour, representatives attended 15 community events, visited 11 R2R locations, and conducted surveys with 241 BC residents. These efforts succeeded in capturing the attention of over 40,000 individuals and garnered media coverage, potentially reaching 64.19k people.

Community Grant Program

The [Community Grant Program](#) is now in its 15th year and has provided over \$6.1M in grants to over 341 projects in 94+ communities throughout BC. The 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 BC residents' benefit when scrap tires are diverted from landfills and recycled into marketable products is invaluable.

In 2023, grants totaling \$250,00 were awarded to 10 successful applicants from communities throughout BC. The grants awarded resulted in the use of approximately 215,000 lbs of BC rubber (the equivalent of approximately 27,921 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. Grant awardees are required to have onsite signage to officially recognize TSBC as a contributor to these important projects and to advise the local MLA and Mayor and Council of the project and the grant.

Partnerships – ARTist Response Team

In 2023, TSBC invested in various community events to demonstrate alignment with and support for education, Indigenous programming, and ocean cleanup. This included sponsoring the ARTist Response Team (ART), an entertainment company that educates on ecology through in-school programming. One of their initiatives, the Voices of Nature model, empowers students to take a leadership role in positive change through singing and advocating for the environment. This year, ART's Voices of Nature and Good Medicine Songs programs were held in 3 schools. During these projects, messages about the tire recycling program were incorporated into rehearsals, concerts, souvenir programs, discussions, and workshops, making connections between science, social studies, Indigenous worldviews, and the songs performed. For the first time, youth aged 14-17 were engaged through a project with a secondary school. Recognition for TSBC's support included logo placement on signage and posters, a full-page message in souvenir programs, inclusion on the ART website, social media posts, and verbal recognition during concerts. TSBC's tire recycling efforts were highlighted through student performances. TSBC is pleased to share this partnership with Interchange Recycling.

Partnerships – First Nations Recycling Initiative (FNRI)

Led by Recycle BC and in collaboration with 8 other stewards, TSBC finances a crucial initiative aimed at assisting First Nations communities interested in establishing recycling programs. This program is overseen by a dedicated First Nations field service specialist who travels across BC to meet with communities, offering guidance and support for their recycling endeavors by providing necessary tools and resources. Through this partnership, a variety of materials are collected, including car tires, medium truck tires, agricultural tires, logger skidder tires, and bicycle tires and tubes. These materials are then processed by Tire Stewardship BC.

In 2023, over 5,000 tires were collected and either removed or scheduled for removal from 11 different locations. This initiative has facilitated partnerships with numerous communities. Six First Nation communities were engaged with the FNRI for the first time, while 14 communities participated again. The initiative attended 5 community engagement events, made 22 community visits, supported 20 community clean-ups, and visited 8 Regional Districts, engaging with 6 of them. A copy of the 2023 Annual Report for FNRI can be found [here](#).

TSBC remains an active member of the Indigenous Zero Waste Technical Advisory Group and looks forward to continuing to collaborate with and support this group in its ongoing efforts.

Partnerships – Ocean Legacy Foundation (OLF)

In 2023, TSBC committed to providing a grant of \$30,000 per year for the next 5 years to Ocean Legacy Foundation. This funding aids OLF's tire clean-up expeditions across BC, including the removal of foam-filled tires from beach cleanups and dock deconstructions. The \$30,000 grant received in 2023 was used to purchase and commission a guillotine system that has significantly improved efficiency and safety around the separation process of the foam from the tire, which up until then had been done manually. In 2023, OLF received and processed 614 tires (12,243 kg) and redirected them from shorelines and waterways across British Columbia to Liberty Tire in Delta, with financial and operational support from TSBC. The majority of tires collected and processed by OLF had been used in dock construction and contained expanded polystyrene (EPS) foam to increase buoyancy, along with wooden or metal stakes. Separating these materials is critical to ensuring maximum recyclability. By partnering with OLF, TSBC ensures that scrap tires collected in BC are processed and repurposed within the province, contributing to a circular economy and reducing landfill waste.

Table 1 Consumer Education and Awareness – 2023

Performance Measure	2023		2022	2021	2020	2019
	Target	Performance				
Awareness of where to take scrap tires for safe disposal	61%	50%	47% (SABC 56%)	56%	48% (SABC 63%)	47%
Awareness of where to go to find information on safe disposal locations	77%	64%	61% (SABC 73%)	68%	62% (SABC 69%)	59%

Prior to 2019, TSBC’s consumer awareness surveys were completed only through the multi-steward SABC survey conducted every two years.

Since 2019, TSBC has conducted its own survey in partnership with the BC Used Oil Management Association (now known as Interchange Recycling) and this reduced scope/higher customized survey yielded very different performance results from the SABC survey. Other BC stewardship programs that participate in the multi-steward SABC survey also run their own surveys and have confirmed to TSBC that their individual survey results are also lower than in the SABC survey.

TSBC understands the most notable reason for the discrepancy in the SABC versus individual survey results is survey fatigue. This is because responses in the SABC survey are required for multiple stewardship programs combined with the fact that Return-it is the first program listed, and the nature of its product attracts high consumer recognition due to its strong marketing and brand awareness program. Going forward, TSBC will continue to participate in the SABC survey.

According to the results of the survey run through Leger in 2023, awareness of tire recycling plateaued, knowledge of recycling locations rebounded, retailers/mechanics were indicated as the top choice for tire disposal, and overall, advertising awareness remained the same as in 2022 (and the results continue to remain higher than in 2020/2021).

The results of the survey pertaining to the two targets, reflect missed targets but an improvement over 2022. TSBC is pleased to see the numbers trending higher given the significant amount of effort and financial commitments to this area of the business and the incredible reach we have received through the TV, digital and bus ads. Looking forward to 2024, we will be increasing our TV ads, with a strategic plan to reach a greater audience (including commercials run during the 2024 Paris Olympics) and will be reworking our digital advertising to match the creative used for TV ads for brand cohesiveness. We are working on increasing our in-person interactions with the general public by hosting more tire collection events and ambassador attendance at community events throughout the year, and we are also working on strengthening our communications with retailers through hosting lunch-and-learn sessions for staff in store, creating informative e-newsletters that will be shared monthly, and finding new ways to encourage retailers to share our message of tire recycling with their customers.

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 (producer) 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. Examples include Home Depot, which may sell a trailer with new tires even though their primary business is not selling tires or equipment with new tires; an online retailer; or a business located out of province.

In 2023 there were 2,077 collection facilities compared to 2,059 in 2022. Although the change is not significant and simply reflects the retailers in business, events throughout the year that affect this number include new retailer locations, closed locations, and changes in retailer businesses that result in the retailers no longer, or now 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 scrap 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 where they are held for collection at no cost to the program.

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 3% of the total annual generation collected results from motorists who choose to take their scrap 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. TSBC does not have a contractual arrangement with any landfill or transfer station to accept tires on its behalf. The disposal option model for these orphan tires is the Return to Retailer (R2R) Program and Tire Collection events. TSBC's communications strategy focuses primarily on educating the consumer on where to take their orphan tires. TSBC's goal is that the consumer will only think of a tire retailer or an R2R location as a tire disposal option, and only use other options by choice and not necessity. However, changing behaviours and having these other disposal alternatives as an option, means this goal will take significant time and money to achieve.

The decrease in the volume of tires going to landfill (6% in 2012) shows that TSBC's measures to provide alternate disposal methods are working. 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 RCBC website and the Recyclepedia app. In 2023, the number of R2R locations increased by ongoing efforts by TSBC to recruit retailers to voluntarily participate in the R2R program. Although the number of R2Rs in any given Regional District is greater than 25% of the total retailers in the region, TSBC will focus its efforts on continuing to add R2R locations while supplementing areas in need with collection events.

In 2020, TSBC conducted a survey to understand the challenges for local government and private depots in handling tires. The result was several actions by TSBC, including a commitment to conduct two annual clean outs at local government sites, work directly with respondents that had more unique challenges and conduct an annual survey seeking feedback on tire collection. The survey for 2023 received a higher response rate than in prior years. TSBC finds the responses very useful and is pleased that the response rate continues to climb. Although challenges for some remain, the over all response was more positive than in prior years, which has been the result of a concerted effort for the hauler to reach out to every site. TSBC remains unwavering in its commitment to do 2 cleans out per year and uses a tracking process that is reviewed bi-weekly by TSBC staff and the haulers to ensure these collections occur. For those sites with unique challenges, including unmanned or remote sites, TSBC provided funding in the form of either an annual stipend or a contribution to help cover the cost of moving the tires to a central location for

collection. TSBC will continue to monitor the results of these actions through surveys with affected stakeholders.

The waste audit process conducted annually is important to note in the context of tires disposed of at landfills. In conjunction with all SABC members, TSBC participates in and funds waste audits in a minimum of one Regional District per year. In 2023, SABC participated in one waste audit – The Regional District of Kootenay Boundary, where tires represented 0.3% of the total tonnes disposed. Despite being non-program materials, bike tires and tubes were included in the count as TSBC offers to collect and recycle them free of charge. This initiative has been in place since 2011.

TSBC also hosts province-wide tire collection events where the public can drop off any tire size, on or off rim, at no charge. No tire is turned away at the event, including non-program, to eliminate the risk of the tire being abandoned or dumped near the event location. The 2023 events are shown in [Table 2](#) below and include events hosted by TSBC and those TSBC participated in hosted by other parties. While these types of events are successful in terms of diverting tires that might otherwise be abandoned in the rural or urban environments, they remain costly to host, especially when TSBC receives tires on rims, which in 2023 represented 19% of the total tires collected. TSBC did run a pilot project in 2023 by having a company on site at the Kelowna event de-rimming tires and a steel recycler also on site to haul them away. This approach avoids the transport of these rims down to Delta, an environmental and economic savings. TSBC will look at expanding this pilot project in 2024. Recognizing the invaluable opportunity to connect face to face with the public dropping off tires, representatives from Liberty Tire attended many of the events with a focus on educating the public on tire disposal options and what happens to the tires after being dropped off. In total, over 5,800 tires were collected thanks to the efforts of all involved, which included the retailers and Regional Districts willing to host these events and Liberty Tire Recycling which provided the trailers and manpower to accept and load the tires.

Table 2 Collection Events – 2023

Date	Facility / Event	City
April 16 & July 17	Sayward Days	Sayward*
April 29	Junk in the Trunk	Prince George
May 6	Integra Tire	Grand Forks
May 8-14	Transfer Station	Devine*
June 24	Mister Tire	Invermere
July 22	Kal Tire	100 Mile House
July 29	Kal Tire	Courtenay
August 12	Kal Tire	Terrace
August 19	Kal Tire	Williams Lake

Date	Facility / Event	City
September 16	Kal Tire	Prince George
September 19	Okanagan College	Kelowna
September 23	Community Centre	McBride*
October 2	Kal Tire	Cumberland

*requested / hosted by Regional District

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 (1R)

While managing tires at their end-of-life is important, lengthening their lives 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, which improves fuel efficiency. Tire manufacturers are also addressing the challenges presented by electric vehicles which, due to their weight, cause tires to wear at significantly higher rates. TSBC continues to work in partnership with the Tire and Rubber Association of Canada (TRAC) in their annual Be Tire Smart campaign which focuses on educating the motoring public on the benefits of proper tire inflation and maintenance. The need to continue these efforts to educate the consumer is supported by the results of a recent survey commissioned by TRAC to gauge attitudes and knowledge around the impacts of proper tire inflation on both internal combustion engine (ICE) vehicles and EVs. Over three quarters (77 per cent) of motorists know that correctly inflated tires improve fuel economy, lessen vehicle emissions, and protect the environment. Sixty-two per cent understand proper tire inflation plays an important role in optimizing EV range. However, the findings reveal a pressing need for more education about how to do tire care right, especially true among younger drivers.

Reusability (2R)

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. Replacing the worn tread allows the reuse of the casing (60-70% of the tire) up to 2 to 4 times, thereby extending the life of the tire. TSBC’s program incents this activity by not assessing an eco-fee on retreaded tires (equivalent to \$14 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.

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. Most 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 this is 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 regulations and international agreements.

The elements that make a tire "safe" also tend to be those that make it difficult to recycle. That said, advancements in end-of-life tire management are continuing. Tire manufacturers are pursuing their own environmental strategies, which involves innovation in manufacturing and the design of greener tires by doing such things as replacing high aromatic petroleum-based oils with bio-based oils from corn, canola, oranges, etc. Manufacturers are also 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.

An illustration of this commitment is the creation of the Tire Industry Project, under the support of the World Business Council for Sustainable Development, by ten leading tire manufacturers. In this project, launched in 2005, Bridgestone, Continental, Goodyear, Hankook, Kumho, Michelin, Pirelli, Sumitomo, Toyo and Yokohama are working together to find sustainable solutions for the industry throughout the tire life cycle. Fields of research include topics such as end-of-life tire management, particles emanating from tire wear, and the development of sustainable natural rubber.

Note: The tire industry has been working closely with stakeholders and regulators on the issue of 6PPD / 6PPD-q and has also created a consortium of tire manufacturers to evaluate alternatives to 6PPD. Information about the process and progress on the alternatives analysis to address this challenge can be found at the links below.

- *Press release: Largest Global Tire Industry Consortium Releases Preliminary 6PPD Alternatives Analysis Report:*
<https://www.ustires.org/largest-global-tire-industry-consortium-releases-preliminary-6ppd-alternatives-analysis-report>
- *Q&A: Stage 1 Alternatives Analysis for 6PPD in Tires:* <https://www.ustires.org/qa-stage-1-alternatives-analysis-6ppd-tires>

- *Stage 1 AA report (filed with California DTSC (regulator) by each of the members of the 6PPD Consortium on 3/29/24): https://www.ustires.org/sites/default/files/2024-03/USTMA%20Consortium%206PPD%20AA%20Preliminary%20Report_3-25-24.pdf*

TSBC has also created its own internal document related to this issue to assist with providing information to the media or the public. A copy of this document can be found [here](#). TSBC will continue to keep a watching brief on this worldwide issue.

6. Pollution Prevention Hierarchy and Product / Component Management

TSBC manages the 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 3](#), which follows these descriptions, provides the 2023 product hierarchy results based on the various categories broken down by component type – rubber, steel and fibre.

Recycling (3R)

Referred to in the industry as 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. This reporting category also includes steel, extracted in the recycling process, sold as a product to an end use market. Should a recycling market for fibre be found, the fibre directed to this end use would also be reflected in this category. In 2023, TSBC missed its target of 88% by 1%, a result of finished product inventoried on site not being shipped to the end customer by December 31, 2023. As this was a timing issue, TSBC is confident that targets will be met going forward and as such is not providing any remediation strategies.

Energy Recovery (4R)

Referred to in the industry as Tire Derived Fuel (TDF), this category comprises not only the rubber but also the fibre extracted in the recycling process that is sold to a kiln. As iron is required in the kiln feed and the ash produced contains elements required in the chemistry of clinker, the tires are not only a fuel source but a beneficial raw material for the production of clinker at the cement plant. In addition, as natural rubber is a renewable resource that comprises 25% of an average of tire, energy recovered from tires can be categorized as a biofuel.

Residuals (5R)

Residuals include waste material from the recycling process – rubber, steel and fibre – that is ultimately disposed of at landfill. Typically, this would only include the rubber component (sweepings or non-

processable material) unless a drop in demand for steel and fibre is triggered by market forces beyond the control of the processor. As the availability of trailers to transport waste to landfill was limited once again in 2023, a portion of the rubber waste volume shown represents inventoried material from the previous calendar year. This issue is resolving itself and TSBC expects to be at, or close to, its target of 1% in 2024.

Table 3 Product Hierarchy Results – 2023

Component	Recycling (3R)	Energy Recovery (4R)	Landfill (5R)
Rubber	87%	11%	2%
Steel	100%		
Fibre		100%	

TSBC supports a mix of recycling and energy recovery end uses 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 usage has appropriate environmental permits.

Tires used for energy recovery are market driven and vary from year to year. For example, the usage was at an all-time low in 2012 due to economic conditions in the cement industry combined with a record high demand for recycled products. However, increased use of tires for energy recovery can occur when recycling product markets decline, such as the economic downturn in 2008 to 2010. In recent years, the volume of BC tires consumed by Heidelberg Materials in Delta has been consistent primarily due to the limit TSBC imposes to ensure it meets its target.

The volume of whole tires and shred directed to energy recovery remains within TSBC’s target of 11%. TSBC continues to work with industry through its Research and Development Program and current participants to find recycling end uses for the fibre. Research to date includes the use of recycled tire fibre in concrete applications to create a value-added product that in most provinces is considered waste and landfilled, and also in recycled rubber products produced in BC.

7. Recovery Rate and Product Sold and Collected

The measure of effectiveness of stewardship programs recommended by the BC Recycling Regulation is the “Recovery Rate”, defined as the actual number of scrap tires collected/divided by the actual number of new tires sold in the reporting year. A report conducted by TSBC’s audit firm concluded the Recovery Rate as currently defined for a product with a life span beyond 1 year is not appropriate in the case of tires; this is because, with the robust tire collection system in place, the factors impacting the difference between sales and collection are the long-term life of a tire, tire sales trends (winter tires, new car

sales/vehicle registrations) and to a lesser degree the export of used tires for reuse. In TSBC’s current Extended Producer Responsibility Plan approved by the Ministry on December 7, 2018, the Recovery Rate for tires is defined as the “actual number of scrap tires collected in the reporting year/divided by the actual number of new tires sold 5 years prior” – a more meaningful measure which aligns with an objective of the Ministry for all stewardship programs.

Table 4 Recovery Rate 2023

Units Collected 2023	Units Sold 2018	Recovery Rate
4,108,770	4,238,972	97%

Table 5 Product Sold and Collected in 2023

Tire category	Units Sold	Units collected and delivered to a processor
Passenger & Light Truck	3,892,338	3,718,011
Medium Truck	377,452	384,286
Large Agricultural	18,393	5,736
Logger / Skidder	3,606	737
Total	4,291,789	4,108,770

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.

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 2023 are shown in Table 6 below. With significant financial losses in both 2022 and 2023 due to reduced tire sales and increased costs across all sectors of the business, TSBC made the decision to increase the PLT category, which had not been adjusted since 2008, from \$5 to \$6.50. This increase is effective January 01, 2024.

Table 6 Advance Disposal Fees – 2023

Tire category	ADF per tire
Passenger & Light Truck (PLT)	\$5
Medium Truck (MT)	\$14
Agricultural Drive	\$15
Logger / Skidder	\$35

Other OTR tires are excluded from the Recycling Regulation but with processing capacity and capability present, TSBC is hopeful the Ministry will agree to add the remaining OTR categories (up to 39” rim diameter) to the Regulation and provide a level playing field for the industry.

100% of fees collected are used for the operation of the scrap tire recycling program. Program revenues and expenses are provided in TSBC’s 2023 Independently Audited Financial Statements, included as [Appendix A](#).

9. Plan Performance

TSBC is currently operating under its [2018 Extended Producer Responsibility Plan](#) approved by the Ministry on December 7, 2018 and will continue to do so until its Plan submitted in August 2021 is approved. In the submitted Plan, TSBC has set new performance measures and targets but is required to report based on the performance measures and targets in its 2018 Plan, as reported in Table 7 below, and reporting commitments as reported in Table 8 below.

Table 7 Performance Measures, Targets and Results 2023

Performance Measures (as agreed with the Ministry)		Annual Targets	Performance
1.	Recovery Rate <u>(Total # Units Collected in reporting year / Total # Units Sold 5 years prior to reporting year)</u>	90%	97%

Performance Measures (as agreed with the Ministry)		Annual Targets				Performance			
2.	The percentage allocation of total tonnes of scrap tires (i.e. all rubber, steel and fibre) <u>processed and shipped</u> Note: on average, rubber accounts for 70% of the total tire weight, with 15% steel and 15% fibre		Recycling	Energy Recovery	Landfill		Recycling	Energy Recovery	Landfill
		Rubber	88%	11%	1%	Rubber	87%	11%	2%
		Steel	100%			Steel	100%		
		Fibre		98%	2%	Fibre		100%	
3.	Number of collection sites (i.e. registered retailers that will take back a scrap tire from the consumer at the time a new tire is sold)	1,850				2,077			
4.	c) Total number of retailers and generators in BC that take back orphan tires (R2R)	c) 800 province-wide				c) 783			
	d) Number of R2Rs in each Regional District	d) At least 25% of registered retailers in each Regional District are R2R locations				d) Achieved			
5.	c) Awareness of where to take scrap tires for safe disposal	c) 61%				c) 50%			
	d) Awareness of where to go to find information on safe disposal locations	d) 77%				d) 64%			

Table 8 Reporting Commitments 2023

Reporting Commitments	
1.	Total tonnes collected by Regional District in a calendar year – Appendix C
2.	Dates, locations and results of tire collection events – Table 2
3.	Number of legitimate collection complaints received by TSBC - 10
4.	Number of consumer complaints received by TSBC – zero

Reporting Commitments	
5.	Results of SABC waste audits and any local government waste audits if data is shared directly with/made available directly to TSBC – Section 4
6.	Comparison of results to targets for all Performance Measures – Table 7
7.	Independently Audited Financial Statements – Appendix A
8.	Non-Financial Information Audit Report – Appendix B
9.	Total product collected and sold in the reporting year – Table 5
10.	Description of how the product was managed in accordance with the pollution prevention hierarchy – Section 6 and Table 3
11.	Collection Facility Locations – Appendix D
12.	Description of educational materials and educational strategies used – Section 3
13.	Efforts taken to reduce environmental impacts, to increase reusability and recyclability – Section 5