



*Message from the Honourable Shannon Phillips
Minister of Environment and Parks*

Albertans have a strong commitment to the environment and recycling is an integral part of our sustainability efforts. This past year 6.03 million tires, 2.2 million litres of paint and 602,000 TVs and computer products were recycled in Alberta.



These results are due in large part to the dedication of 154 municipalities and Indigenous communities. Together, they have established a total of 452 electronics, paint and tire recycling depots from Zama City in Mackenzie County down to Cardston and many points in between. Convenience and accessibility have played an important role in the success of these sites with 96% of Albertans living no further than a 20 minute drive from an electronics, paint or tire recycling depot.

On October 1, 2018, Alberta Recycling takes on management of the province's used oil materials recycling program. Consolidating four recycling programs under one management board that has a multi-material mandate will lead to efficiencies in program delivery while maintaining and improving Albertans' ability to drop used oil materials off at 230 locations across the province.

Phillips

Shannon Phillips
Minister of Environment and Parks

Managing Alberta's used oil program

On October 1, 2018, Alberta Recycling takes on the responsibility for managing the province's used oil materials recycling program. We have worked closely with the Alberta Used Oil Management Association to ensure an efficient, effective transfer with minimal impact on key program stakeholders including companies remitting environmental handling charges, collectors and processors of the materials, and the public and businesses with material to be recycled. A firm foundation has been established since this program began in 1997 with over a billion litres of used oil recycled along with millions of containers and filters. Alberta Recycling looks forward to continue building upon it.

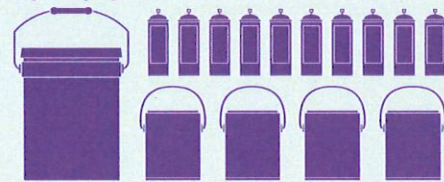
CONGRATULATIONS ALBERTA!

So far you've recycled...

9 million TVs & computer products



22 million litres of paint and 4.3 million spray paint cans



...and **112 million tires**



Our vision

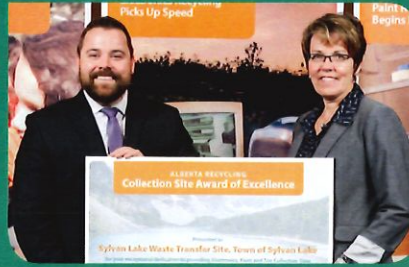
A sustainable Alberta-based solution for recycling electronics, paint and tires (designated materials) that is a model of excellence, environmentally responsible and economically viable.

Our mission

To carry out our delegated mandate of managing revenues to achieve high environmental outcomes in respect of each designated material.



Saddle Hills County Transfer Stations



**Sylvan Lake Waste Transfer Site
Town of Sylvan Lake**



**Broadview Enviroservice Station
Strathcona County**

CHAMPIONS OF THE ENVIRONMENT

The recycling programs would not be as successful without the efforts and commitment of municipalities, waste authorities and Indigenous communities who work hard to ensure that Albertans have a place in their community to recycle. Every year Alberta Recycling recognizes three collection sites (recycling depots) for their exceptional dedication to providing Electronics, Paint and Tire Collection Sites that are organized, safe and convenient for their residents and businesses to use.

The 2018 winners, each pictured with Caroline McAuley, Chair of the Alberta Recycling Management Authority.

WHO WE ARE Alberta Recycling is a not-for-profit association responsible for managing Alberta's Tire, Electronics and Paint Recycling Programs – and as of October 1, 2018, the Used Oil Materials Recycling Program. The organization is run by a Board of Directors representing various stakeholder groups and is accountable to the Minister of Environment and Parks.

BOARD OF DIRECTORS

Board Chair (representing the public-at-large)	Caroline McAuley
Rural Municipalities of Alberta	Al Kemmere
Alberta Urban Municipalities Association	Cathy Heron
Association of Professional Engineers and Geoscientists of Alberta	Joe Kostler
Environmental Services Association of Alberta	Vacant (Jeff Dirks to April 19, 2018)
Recycling Council of Alberta	Leah Seabrook
Industry-at-large (represented by Retail Council of Canada)	John Graham
Alberta Environment and Parks	Patrick Kane
Electronics Recycling Alberta Industry Council Chair	Jeff Faber
Paint Recycling Alberta Industry Council Chair	Lis Anderson
Tire Recycling Alberta Industry Council Chair	Brent Kennedy

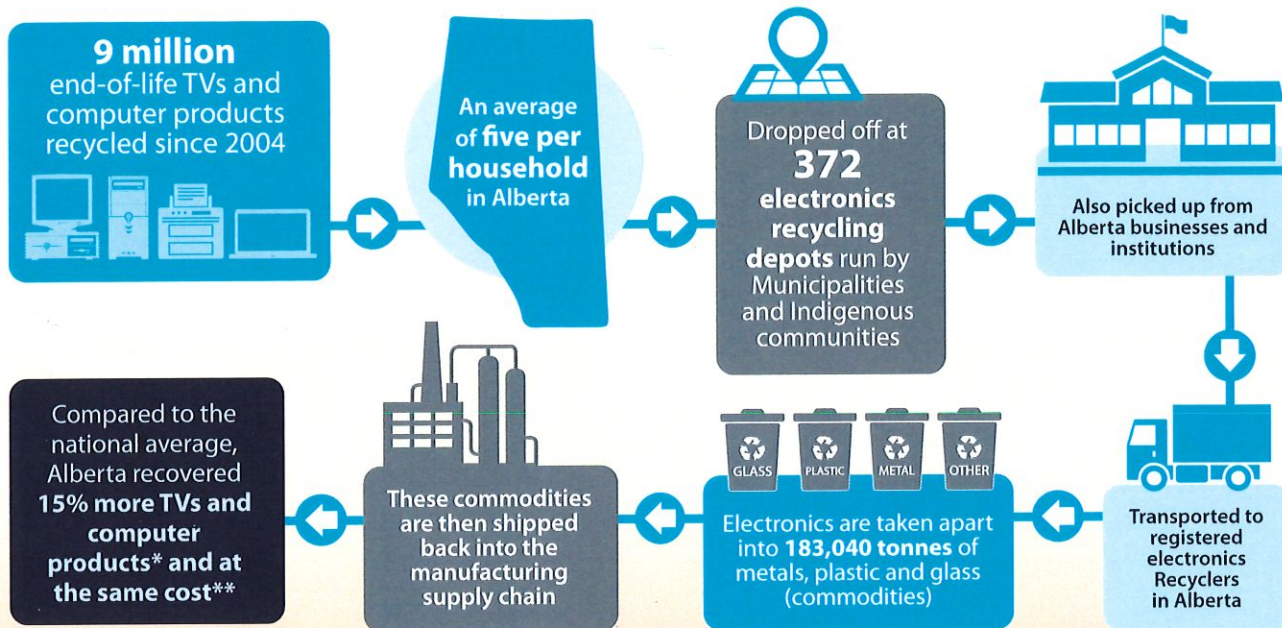


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*kgs. recovered per capita; **cost per kg. recovered; 2011-16

MAKING RECYCLING MORE CONVENIENT

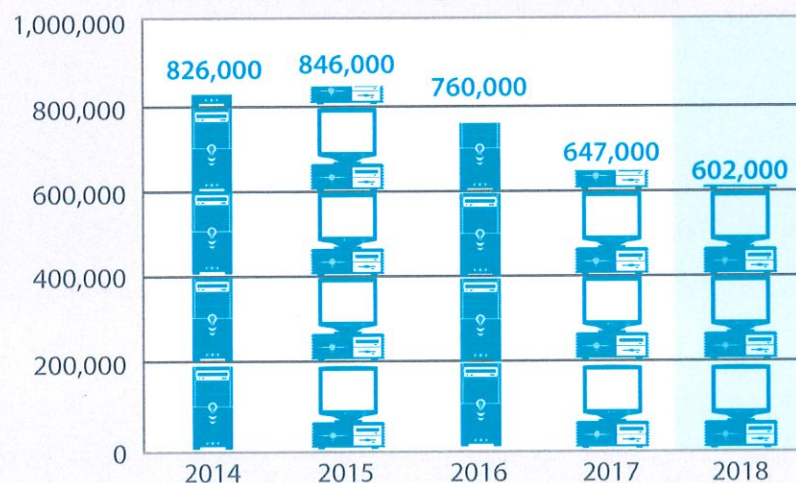
96% of the population live no further than a 20-minute drive from an electronics recycling depot



RECYCLING RESULTS

The chart presents results for the last five years of the Program. The amount recycled in 2018 was 11% lower than the previous year. Sales of new electronics continued to be lower because of the downturn in Alberta's economy that began in fall 2014. Specifically, unit sales were down 24.2% overall so with fewer new products purchased, fewer end-of-life electronics were discarded by Albertans.

Number of TVs and computer products recycled



KEEPING EVEN MORE ELECTRONICS OUT OF THE LANDFILL

The Government of Alberta is considering changes to the Electronics Program that could see over 200 products ranging from small appliances such as microwaves and toasters to vacuum cleaners, curling irons and power tools added to the Program. Albertans have been so committed to recycling their old TVs and computer equipment that in a recent poll they indicated they want to keep more electronics out of the landfill.







of Albertans support expansion of the program

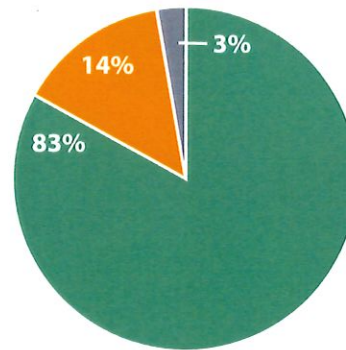
ENVIRONMENTAL FEES AT WORK

The environmental fees paid on the purchase of new electronics are used to help fund their collection and recycling along with other Program-related costs (see pie chart). There are 1,540 businesses (Suppliers) registered with Alberta Recycling to ensure that these fees are remitted on every TV and computer sold in Alberta.

Alberta Recycling values the commitment of these Suppliers who diligently remit the fees for the recycling of end-of-life electronics.



	TVs, Monitors & All-In-One Computers	
	Less than 30 inches	\$ 4.00
	30 inches or larger	\$10.00
	Computers & Servers	\$ 4.40
	Laptop, Notebook & Tablet Computers	\$ 1.20
	Printers, Photocopiers, Scanners, Fax Machines	\$ 4.80



How the fees are used

- Recycling Expenditures 83%** (Collection and recycling of electronics)
- Administration 14%** (Program management)
- Recycling Development 3%** (R&D; Program awareness)

ALBERTANS SUPPORT THE ELECTRONICS RECYCLING PROGRAM

Every year Albertans are polled to measure support for both the Program and the environmental fees charged on the sale of new TVs and computer equipment. This year results indicate Program support remains strong but support for the fees has dropped, in conjunction with the downturn in the Alberta economy. Eight out of 10 people are aware of their nearest recycling depot and in the past year three out of 10 have used a depot to recycle their old TVs and computers. Follow us on Facebook and Instagram (@albertarecycle) and make sure you post a picture of yourself recycling your old computer or TV!

Annual survey results

	Support for program	Support for environmental fees	Awareness of depots	Have recycled in the past year
2016	89%	53%	88%	39%
2017	86%	51%	85%	27%
2018	89%	47%	81%	32%

HARD-TO-GET ELECTRONICS PILOT PROJECT

In a recent poll 30% of Albertans indicated they have end-of-life TVs and computer products at home but for various reasons have not recycled them yet. This project encouraged schools to engage their community to dig out old electronics and bring them to the school for recycling. In turn, the school received funding for each unit collected. This project continues in 2019 with renewed promotional opportunities to encourage participation. Following are the 2018 results:



Curbside collection

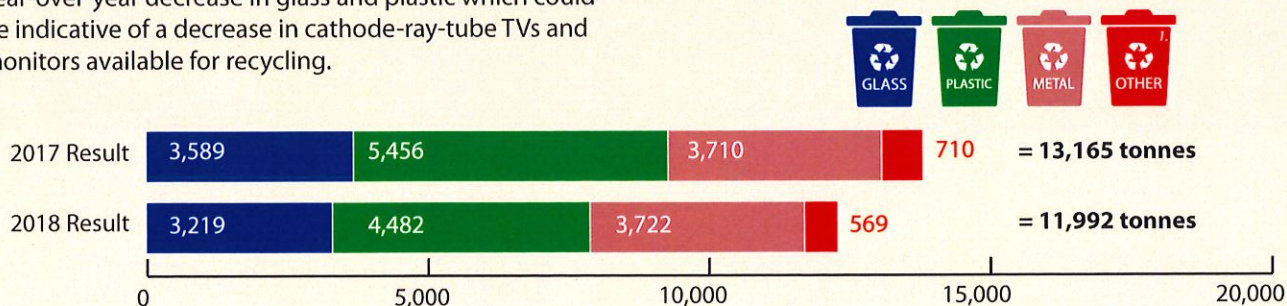
For the third year in a row, Alberta Recycling partnered with a municipality to test curbside collection. Residents were invited to leave their TVs and computer equipment at the curb. This year's event netted 473 units for recycling. The curbside pilot will continue in 2019 in order to gather enough data to measure its viability as a long term project.



473 TVs and computers
collected in weeklong curbside pilot

HOW 9 MILLION ELECTRONICS ARE RECYCLED

Registered Recyclers pick up TVs and computer products from business and institutions and from 372 recycling depots across the province. They transport the material back to their facilities (all located in Alberta) where they break down each item, separating the materials into metals, plastic and glass. These commodities are then shipped back into the manufacturing supply chain. Following are results from the past two years, revealing a year-over-year decrease in glass and plastic which could be indicative of a decrease in cathode-ray-tube TVs and monitors available for recycling.



1. 'Other' includes batteries, toner and inks, wire and cables, and wood.

KEEPING HAZARDOUS SUBSTANCES OUT OF THE LANDFILL

Since 2004, 11,387 tonnes of hazardous material has been safely and properly handled during the recycling process. Following are results from the past two years showing some of the substances of concern diverted from the landfill.

Material	2017	2018
82 Pb Lead Lead (tonnes) Circuit boards, cathode ray tubes, TVs, monitors, CPUs, laptops, and printers.	341	295
80 Hg Mercury Mercury (kg.) Batteries - general; mercury lamp batteries and switches; laptops	0.27	0.31
48 Cd Cadmium Cadmium (kg.) Circuit boards, cathode ray tubes, insulated wire, TVs, monitors and CPUs	4.71	4.31
4 Be Beryllium Beryllium (kg.) Circuit boards, TVs and monitors	14.60	12.60
51 Sb Antimony Antimony (tonnes) Circuit boards, CPUs, laptops, and printers	1.47	1.41



Data security is a top priority

Once a computer is collected by a registered Recycler, they are responsible to destroy the hard drive (example pictured above) and other storage media. The Recyclers can also provide Certificates of Destruction if requested.



ENVIRONMENTAL STANDARDS FOR RECYCLERS

An objective of the Electronics Program is to ensure the registered Recyclers operate in an environmentally and socially responsible manner. Annual environmental audits by external experts are conducted to confirm if the Recyclers are following Program requirements. Results are reported annually in a "Compliance Assurance Summary Report" found at albertarecycling.ca



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*cost per kg. recovered; **kgs. recovered per capita; 2011-16

MAKING RECYCLING MORE CONVENIENT

93% of the population live no further than a 20-minute drive from a paint recycling depot



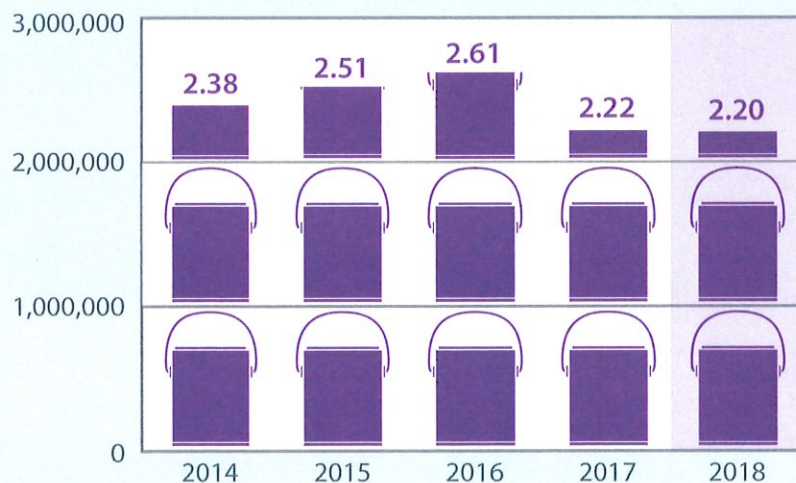
RECYCLING RESULTS

The chart presents results for the last five years of the Program.

It shows a decrease in 2017 which was likely a delayed response to the downturn in Alberta's economy that began in the fall of 2014.

2018 continued this trend with a year-over-year decrease of 1.1%.

Litres of paint recycled



Number of spray paint cans recycled

Since 2008 4.3 million spray paint cans have been recycled.

This chart, showing results for the last five years, indicates a 21% increase in 2018. This improvement could partly be attributed to an increase in commercial paint roundups. These events help make it convenient for painting contractors and businesses in general to bring in unlimited amounts of leftover or unused paint and containers for recycling (please see the article on the next page for additional information).



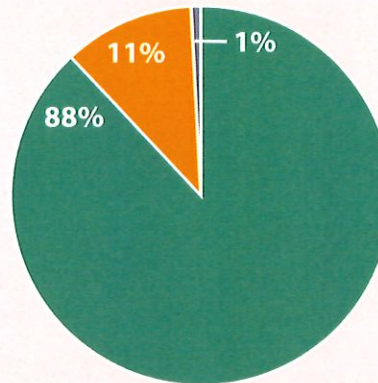
ENVIRONMENTAL FEES AT WORK

The environmental fees paid on the purchase of new paint and containers are used to help fund collection and recycling of this material along with other Program-related costs (see pie chart). There are 508 businesses (Suppliers) registered with Alberta Recycling to ensure that the fees are remitted on each eligible product sold in Alberta.



Alberta Recycling values the commitment of these Suppliers who diligently remit the fees for the recycling of leftover paint and containers.



	100 ml to 250 ml	\$0.10
	251 ml to 1L	\$0.25
	1.01 L to 5 L	\$0.75
	5.01 L to 23 L	\$2.00
	SPRAY PAINT CANS (any size)	\$0.10



How the fees are used

-  **Recycling Expenditures 88%** (Collection and recycling of paint and containers)
-  **Administration 11%** (Program management)
-  **Recycling Development 1%** (R&D; Program awareness)

ALBERTANS SUPPORT THE PAINT RECYCLING PROGRAM

Every year Albertans are polled to measure support for the Paint Program and the environmental fees charged on the sale of new paint and containers. This year the results indicate Program support remains strong while support for the fees increased by a percentage point over 2017. Follow us on Facebook and Instagram (@albertarecycle) and make sure to post a photo of yourself recycling your old paint, spray paint and paint containers!

Annual survey results

	Support for program	Support for environmental fees	Awareness of paint depots	Have recycled in the past year
2016	86%	61%	85%	34%
2017	84%	53%	82%	30%
2018	82%	54%	81%	31%

HELPING ALBERTA BUSINESSES RECYCLE THEIR PAINT

Recycling depots often have limited storage capacity or operating hours that can restrict the access for painting contractors and businesses to recycle their leftover paint and containers. Alberta Recycling is working with recycling depots and paint Recyclers to help address these issues. In 2018, monthly commercial paint roundups were held in Edmonton and Calgary. This was in addition to six municipalities that held roundups in north, central and southern Alberta, with feedback obtained from participants to make the events in 2019 bigger and better.



EMPTY PAINT CANS ARE RECYCLED TOO

Metal paint cans and plastic pails are an equally important part of the Paint Recycling Program as the environmental fees paid at the time of purchase help fund the collection and recycling of these materials.

What happens to empty metal and plastic paint cans

The plastic pails collected by paint Recyclers are shipped to an approved processor in southern Alberta and recycled into composite lumber, fence posts and parking curbs



The metal cans are recycled into industrial products such as rebar.



ENVIRONMENTAL STANDARDS FOR RECYCLERS

An objective of the Paint Program is to ensure leftover paint and containers are collected and shipped by the registered recyclers to downstream processors in an environmentally and socially responsible manner. Regular inspections by Alberta Recycling and an environmental audit by external experts every three years confirm if the Recyclers are following the requirements of the Program.



WHAT HAPPENS TO YOUR LEFTOVER PAINT



..... **Registered Recyclers** pick up leftover or unused paint and containers from 317 depots throughout Alberta and from businesses and institutions.



..... **Oil-based paint** is bulked and shipped to approved downstream processors to be used in the energy recovery process.



..... **The latex paint** is delivered to an approved Recycler in Alberta for processing into new paint.

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electronics



paint



tires

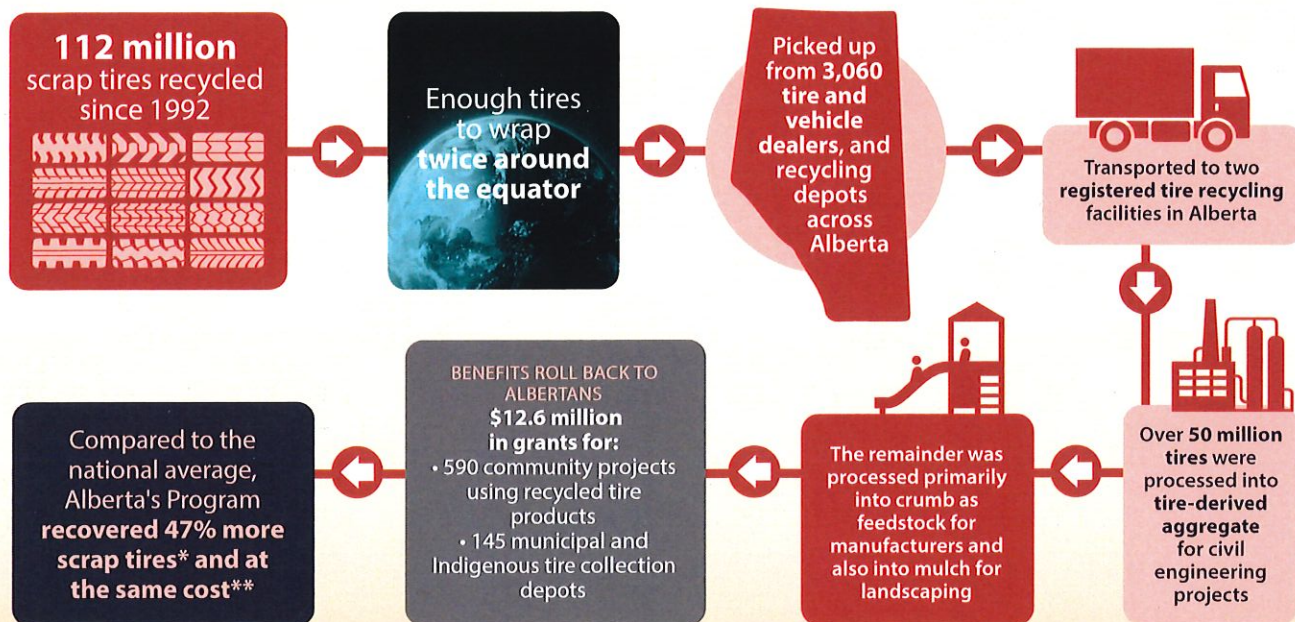
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Tire Suppliers' Recycling Role

When Albertans get new tires, they usually leave their old ones behind. They can because 3,060 vehicle and tire dealers and auto repair shops play a dual role – selling new tires and being a primary collection point for scrap tires destined for recycling at Alberta facilities.



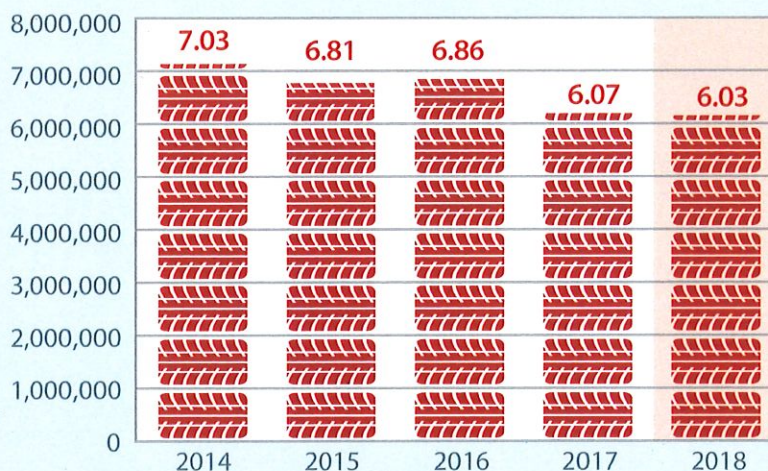
RECYCLING RESULTS

The chart presents results for the last five years of the Program.

The downturn in Alberta's economy that began in fall 2014 gradually impacted sales of new tires and reduced volumes of discarded tires available for recycling.

In 2018, sales of new tires began to recover and will result in rebounding recycling volumes as scrap tires are collected and recycled.

Number of tires recycled



ALBERTANS ARE GETTING GREAT MILEAGE FROM THEIR TIRE RECYCLING PROGRAM WITH \$12.6 MILLION IN GRANTS

Across the province you will find recycled tire products in 590 Municipal Demonstration Grant Projects such as playgrounds, arenas, outdoor fitness areas and walking trails.

Additionally 145 Indigenous communities and municipalities have received funding to upgrade their tire collection areas located at landfills and transfer stations.



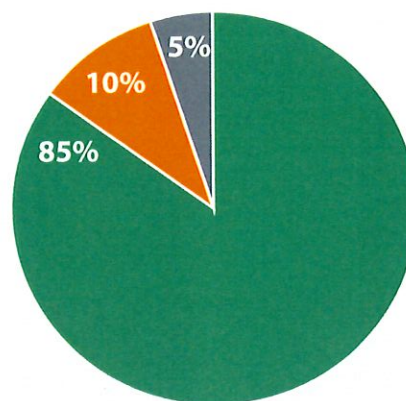
Year	Support for program	Support for environmental fees
2014	86%	61%
2015	90%	60%
2016	86%	64%
2017	87%	61%
2018	83%	60%

ALBERTANS SUPPORT THE TIRE RECYCLING PROGRAM

Every year Albertans are polled to measure support for both the Program and the environmental fees charged on the sale of new tires. This year results indicate Program support remains strong. While support for the fees has dropped by 1%, it remains the highest of the three recycling programs. Follow us on Facebook and Instagram and post a photo of a grant project in your community!



How the fees are used







- Recycling Expenditures 85%**
(Collection and recycling of tires)
- Administration 10%**
(Program management)
- Recycling Development 5%**
(R&D; Program awareness)




ENVIRONMENTAL FEES AT WORK

The environmental fees paid on the purchase of new tires are used to help fund tire collection and recycling along with other Program-related costs (see pie chart). There are 3,060 businesses (Suppliers) registered with Alberta Recycling to ensure that the fees are remitted on every eligible tire sold in Alberta.

Alberta Recycling values the commitment of these Suppliers who diligently remit the fees for the recycling of scrap tires.

	CAR AND LIGHT TRUCK TIRES (e.g. spares, sport and cross-over utility vehicles)	\$4/tire
	SPECIALTY, INDUSTRIAL AND OTHER TIRES (e.g. trailer, ATV, dirt bike, ATV, forklift, small loaders, skid-steers)	\$4/tire
	MEDIUM TRUCK TIRES (e.g. large commercial freight trucks and passenger buses)	\$9/tire
	OFF-THE-ROAD TIRES (e.g. equipment used in construction, road building, forestry mining etc.)	\$40, \$100, or \$200/tire depending on rim size

This chart breaks out the amount of tires processed by type for the past three years. Tires vary in size and weight, therefore a standardized unit is applied to present the results, using a passenger-tire-equivalent (PTE) of one PTE equalling 10 kgs. There is 100 PTEs in one tonne of tires.

Year	 Passenger, Light Truck, Specialty, Industrial & Other Tires (PTE)	 Medium Truck Tires (PTE)	 Off-the-Road Tires (PTE)
2016 Result	3,997,500	2,333,900	534,500
2017 Result	3,467,900	2,150,200	448,500
2018 Result	3,761,700	2,035,400	236,200

ENVIRONMENTAL STANDARDS FOR RECYCLERS

A goal of the Tire Program is to ensure all scrap tires are collected and processed by registered Recyclers in an environmentally and socially responsible manner. Monthly inspections by Alberta Recycling and an environmental audit by external experts every three years, confirm if the Recyclers are following the requirements of the Program.



WHAT HAPPENS TO YOUR SCRAP TIRES



Two registered recyclers coordinate the collection of scrap tires from **3,060 vehicle and tire dealers, auto repair shops and 343 recycling depots.**

Since 2002 4-H clubs have partnered with Alberta Recycling to clean up rural areas, collecting approximately one million tires for which they have received funding per unit.



Stage one: tires are shredded into large pieces for use as tire-derived aggregate (TDA). The steel and fibre are still embedded.

Application: TDA is applied in place of washed rock (a limited and non-renewable commodity), as drainage material for leachate collection in municipal landfills.



Stage two: shred is ground to make mulch, with the steel removed.

Application: landscaping.



Stage three: tires are processed into crumb with the steel and fibre removed.

Application: top-dressing in sports fields or as feedstock for playground surfacing and molded products.

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electronics



paint



tires

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