



# 2023 REPORT ON ENVIRONMENTAL SUSTAINABILITY

**PREPARED BY**

*SARCAN Recycling  
September 2023*

**SARCAN**  
**RECYCLING**  
A DIVISION OF SARC

## OUR IMPACT AT A GLANCE:

The work of SARCAN teams across Saskatchewan has a global impact. The resource conservation led by a team of over 900 SARCAN recyclers across 73 collection depots and 2 processing plants helps protect our environment for future generations. Every day we help people across Saskatchewan shrink their environmental footprint, and foster the sustainable development of Saskatchewan communities.



**46M**

SARCAN teams prevented 46,489,664 pounds of resources from entering landfills last year.



**36%**

Each customer leaves behind 1.3 pounds of unrecycled waste after their visit. Our internal recycling efforts divert 36% of this waste from landfills.



**100%**

100% of approved materials that customers brought to SARCAN this year were transformed into new products within North America.

**+3%**

By efficiently loading our trailers and compacting containers as much as possible, we have increased the weight of materials on depot trailer switches by 3% over the past 11 years.

**11,561  
CARS**

The emissions avoided by recycling at SARCAN is equal to pulling 11,561 passenger vehicles off the road annually.

**6,084**

The metric tonnes of greenhouse gas emissions resulting from SARCAN's operations across 76 facilities last year.

**9,888  
HOMES**

The energy saved by recycling at SARCAN is equal to the energy required to power 9,888 homes for a year.

# SUSTAINABILITY AT SARCAN



SARCAN Recycling has been an important part of Saskatchewan's green economy since being founded in 1988. As SARCAN has expanded to include more communities and grown to divert more types of resources from landfills over the past 35 years, our mission has always been to operate a low carbon emitting, resource efficient, and socially inclusive business.

SARCAN is part of 65 communities in Saskatchewan. Recycling is an important part of the sustainable development planning for these communities for many reasons:

- **Recycling conserves resources** by preserving a valuable feedstock for the manufacturing industry, and reducing the need for natural resource extraction. This conserves important resources and builds circular economies.
- **Recycling saves energy** as using recycled materials in the manufacturing process requires considerably less energy compared to manufacturing from raw materials.
- **Recycling helps protect the environment** by mitigating the substantial amount of air, water, and land pollution created by sourcing raw materials for manufacturing.
- **Recycling curbs the growth of our landfills** by diverting useful resources from landfills into the manufacturing supply chain.

The recycling work that SARCAN employees do every day is important. We help protect our planet and its natural resources.

# OUR PERFORMANCE MEASURES

SARCAN's Report on Environmental Sustainability demonstrates our commitment to the sustainable development of Saskatchewan. As a leading contributor to our province's green economy, it is important that we continue to track, report, and seek to improve the sustainability of our operations.

Our business impacts the environment in several ways. The performance indicators we have included in our Report on Environmental Sustainability measure those impacts on the natural environment. This includes not only the positive impacts of our work, but the footprint of our entire operation.

We use these performance indicators as benchmarks, and we are committed to enacting measures that will improve our environmental impact.

## Report Sections:

1. Resources Diverted
2. Internal Waste Diversion
3. Resources Conserved
4. Trailer Loading Efficiency
5. Our Carbon Footprint
6. Saved Emissions
7. Energy Saved
8. Water Consumption
9. Increasing Access and Awareness
10. Other Initiatives

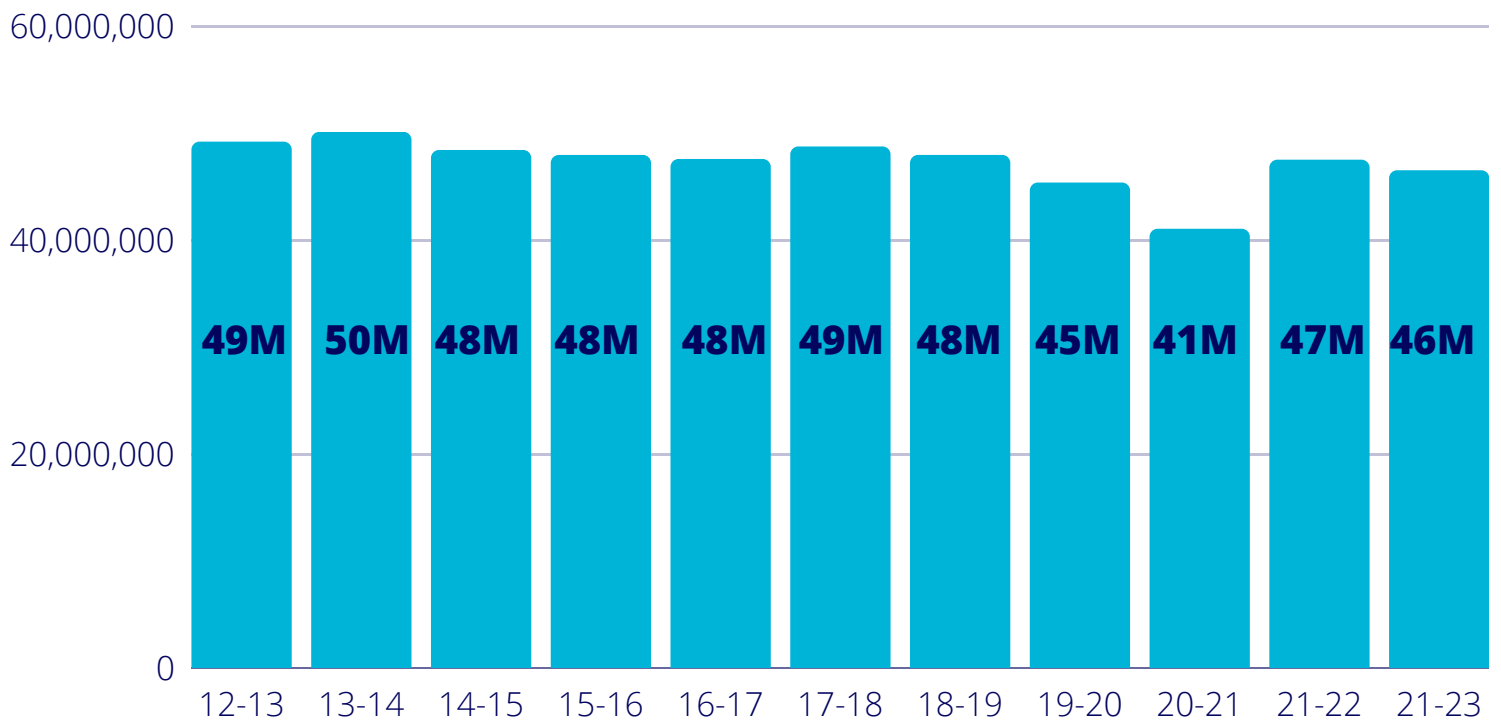


**1**  
**Resources  
Diverted**



# RESOURCES DIVERTED

## Total Pounds of Resources Recycled at SARCAN



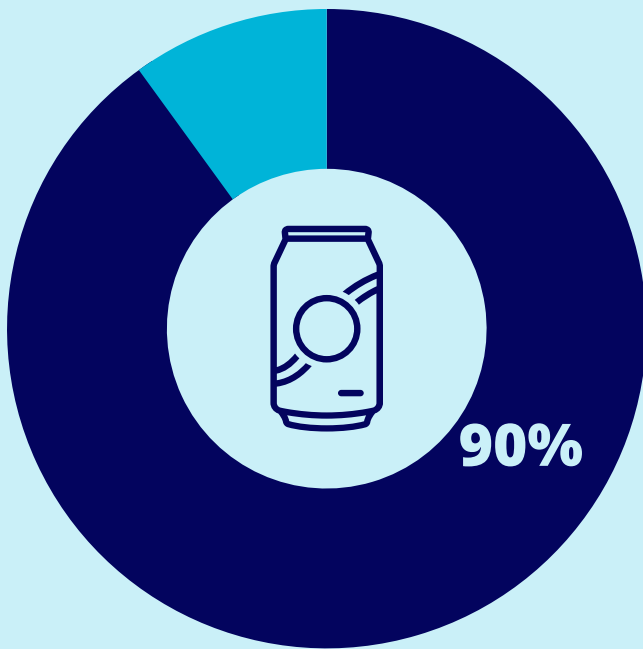
**46,489,664**

Last year SARCAN recycled over 46 million pounds of resources, saving them from landfills and feeding them back into manufacturing industries.

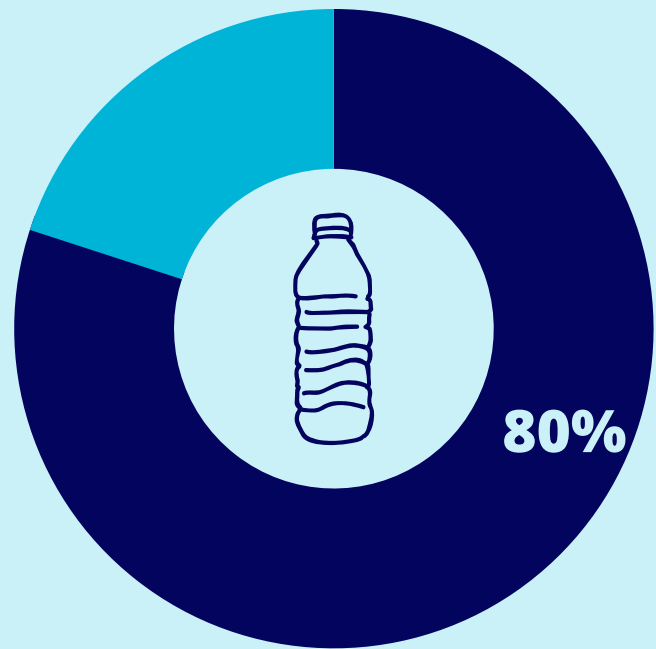


# Point of High Returns:

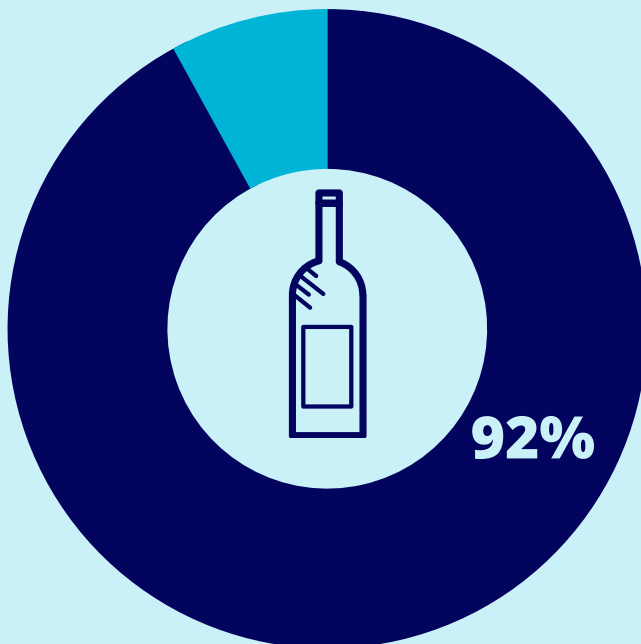
SARCAN has an overall return rate of 84% of beverage containers sold in Saskatchewan.



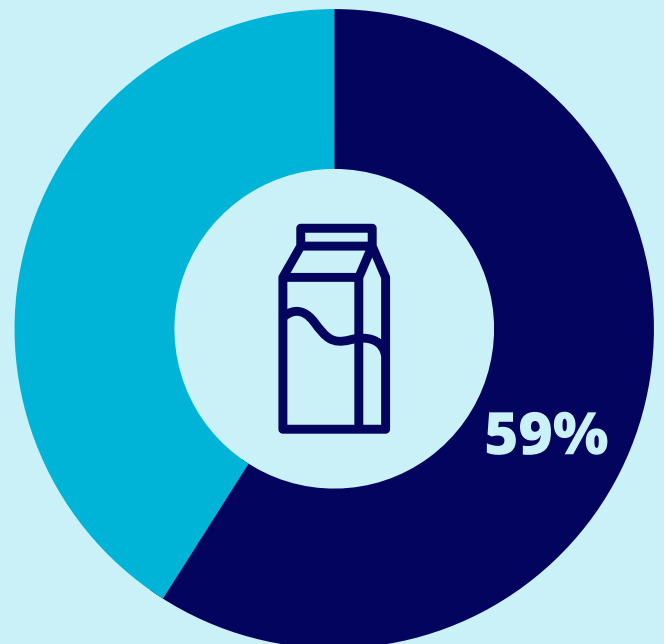
**Aluminum**



**Plastic**



**Glass**



**Cartons**





## LEGISLATED MATERIALS

38,579,035 lbs

83% of total volume

This includes all containers in Saskatchewan's legislated deposit refund system.



## NON-LEGISLATED MATERIAL

6,283,166 lbs

13% of total volume

This includes refillable beer bottles, household paint, end-of-life electronics, and household batteries.



## HOUSEHOLD PACKAGING

913,756 lbs

2% of total volume

This includes glass and tin non-beverage household packaging.



## INTERNAL RECYCLING

713,707 lbs

2% of total volume

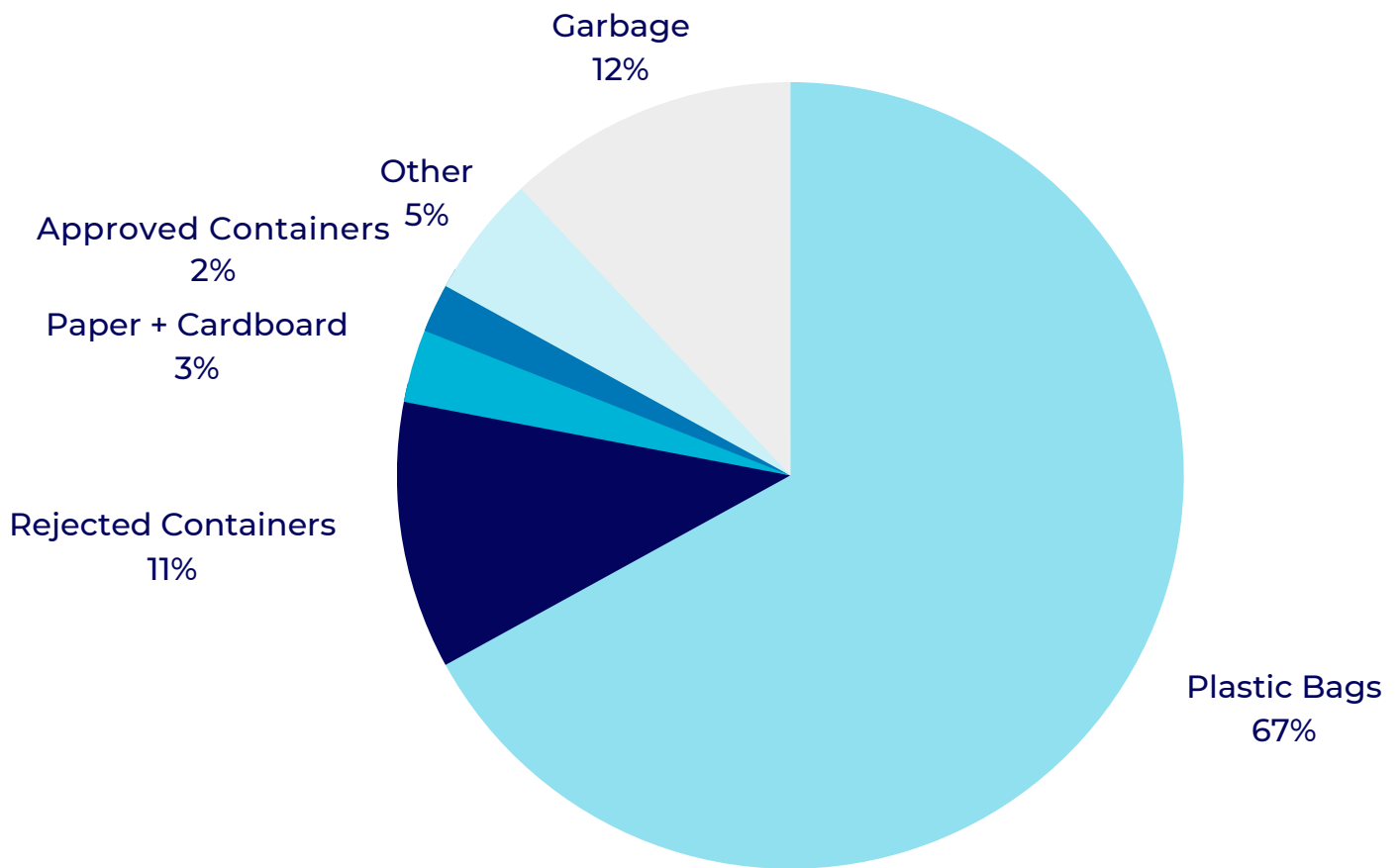
This includes cardboard, caps and clear plastic film diverted from our waste stream.



# Internal Waste Diversion

# TRASH TALK

SARCAN conducted a waste audit in conjunction with the Saskatchewan Waste Reduction Council in 2022. Here is a breakdown of the materials generated from SARCAN facilities that end up as landfilled waste:



## NOTES:

1. Non-beverage containers= household packaging
2. Approved Containers= deposit eligible containers
3. Other waste= caps, broken glass, and food/yard waste
4. Garbage waste= products without a readily available recycling or composting solution, such as contaminated recycling, bathroom waste, single use plastics, coffee cups, masks, and clothing



# WASTE NOT, WANT NOT.

SARCAN's internal waste diversion initiatives include the following recycling streams:



## **CARDBOARD + PAPER** 583,219 lbs

Boxes brought in by customers, and paper used throughout our system.



## **CLEAR PLASTIC FILM** 75,234 lbs

Clear bags used internally to sort and ship containers, as well as used by bulk customers.



## **CONTAINER CAPS** 53,394 lbs

Lids from approved containers.



## **SHIPPING CONTAINERS** 1,860 lbs

Tubskids and totes that are no longer repairable.



# OUR WASTE DIVERSTION RATE



**35.8%**

The average SARCAN customer leaves behind approximately 1.3 pounds of unrecycled waste after their visit. SARCAN's internal recycling programs divert 36% of this waste from landfills.

## OPPORTUNITIES FOR IMPROVEMENT:

### **Waste Free Visits**

Encourage customers to ditch the bag and use a reusable or recyclable option.

### **Cap Recycling**

Encourage more customers to sort their caps from their orders using cap collection bins.

### **Education**

Inform customers of recycling options for household packaging and hazardous materials.



# 3 Resources Conserved

# RESOURCE HIERARCHY

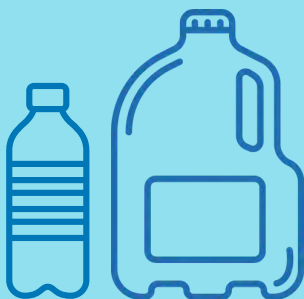
## PRIORITY 1: CONTAINERS TO CONTAINERS

Our top priority for downstream recycling is for materials to be fed into circular economies. Shipping resources to markets that are a part of circular production cycles reduces the need for natural resources and reduces the greenhouse gas emissions from production cycles.



### ALUMINUM 8,972,569 LBS

Aluminum containers represent a closed-loop system, where the cans collected at SARCAN are recycled back into new aluminum cans. SARCAN's bales of aluminum are shipped to Brea, Kentucky for recycling.



### CLEAR PET AND HDPE PLASTIC 9,029,858 LBS

Clear PET and natural HDPE can be remade into new food grade containers. These containers are shipped to Calgary, AB, and Delta, BC, where they are flaked, washed, and melted into plastic beads that are shipped to plastic container manufacturers.



### REFILLABLE GLASS BEER BOTTLES 1,979,186 LBS

Many of the collected beer bottles are refilled up to 12 times, and when they have reached the end of their life, they are remade into new bottles. SARCAN sends our bottles to distributors in Saskatoon and Regina for shipment to breweries for refilling.

# PRIORITY 2: CONTAINERS TO NEW PRODUCTS

When circular solutions are not feasible, SARCAN prioritizes shipping collected resources to manufacturers who use these resources as a feedstock for creating different products.



## COLOURED PET AND OTHER PLASTIC - 1,317,667 LBS

Coloured PET and all other lower grade plastics (including clear film and caps) are transformed into new non-food grade plastic products through plastics recyclers in Calgary, AB, and Delta, BC for recycling.



## CLEAR GLASS - 11,073,220 LBS

Clear glass is crushed by SARCAN, and sent to Moose Jaw, SK where it is transformed into reflective glass beads for highway marking paint.



## COLOURED GLASS - 6,717,346 LBS

Coloured glass is also crushed by SARCAN, but it is shipped to Airdrie, AB to be used as a feedstock in the production of fibreglass insulation.



## CARTONS - 2,318,054 LBS

Cartons are shipped to recyclers in Mississauga, ON, Cheboygan, MI, or Des Moines, IA. At these downstream recyclers, cartons are either transformed into wallboard, boxboard, or other lower-grade plastic products.



## TIN/ BI-METAL (583,219 LBS)

Tin and bi-metal containers are shipped to a smelter in Regina, SK where they are transformed into steel pipe and construction rebar.



## CARDBOARD (583,219 LBS)

Collected cardboard is baled and sent to a paper broker in Mississauga, ON, who ships it to pulp mills to make new boxboard products.



# ALL OTHER COLLECTED MATERIALS:

SARCAN collects household paint, end-of-life electronics, and household batteries in partnership with national stewardship programs.

These stewardship programs are responsible for managing these products through downstream processors. For more information on the downstream recycling process for these materials, please visit each stewardship partner's website.



## CHEERS FOR REUSE!

Reusing resources is a more sustainable solution than recycling them. Reusing resources conserves energy and natural resources, creates less emissions than recycling or making new products from virgin materials, and also makes resources available to people who might not be able to afford to buy them. SARCAN has two major reuse initiatives we promote to lower our environmental impact:

### LEFTOVER PAINT

All SARCAN depots host a shelf stocked with reusable paint for any customers to pick up. Last year alone, SARCAN customers reused 18,322 cans of paint!

### REUSABLE GLASS

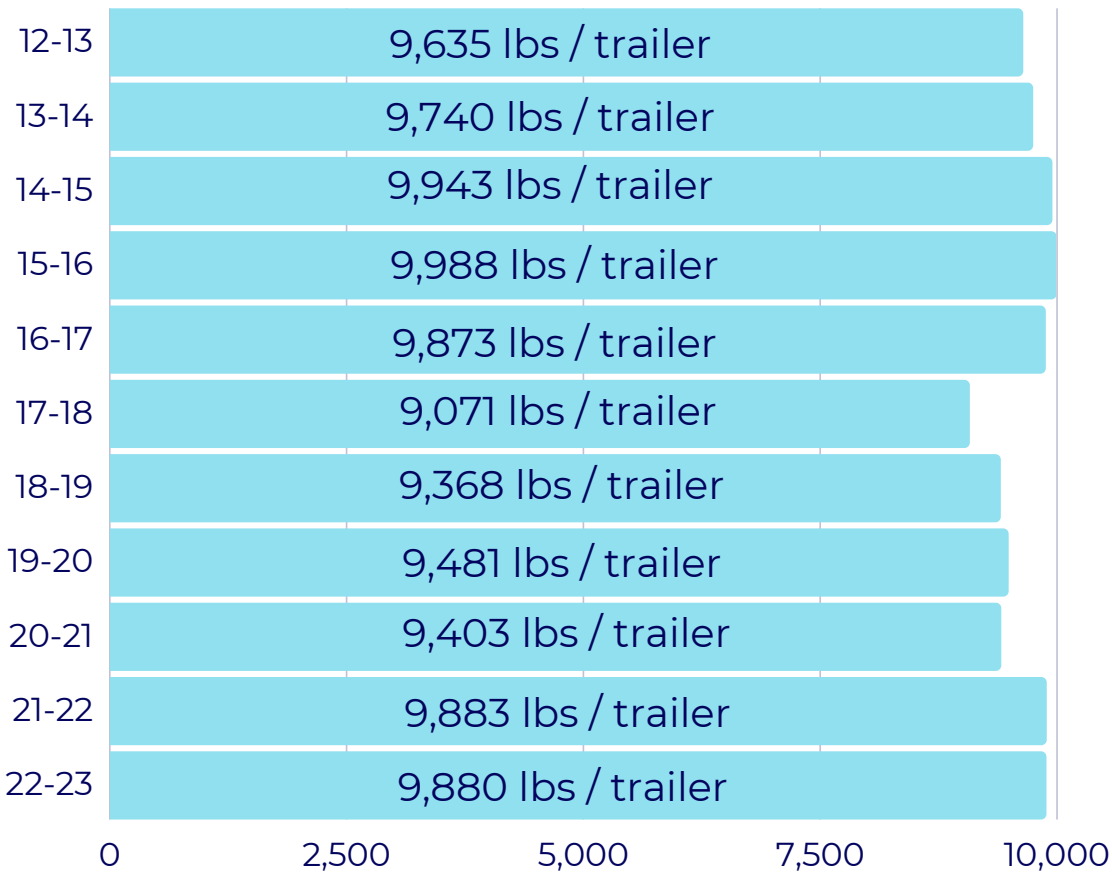
Select SARCAN depots and processing plants share reusable glass bottles with customers, primarily for home brewing and home bottling.

# Trailer Loading Efficiency



# TRAILER LOADING EFFICIENCY

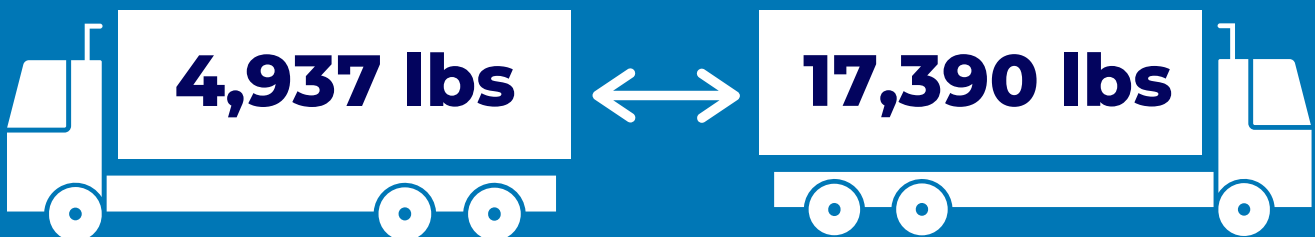
## Total Pounds of Materials Recycled at SARCAN



**+3%**

more materials on trailer switches from depots over the past 11 years

## Range of Average Trailer Weights



# ANNUAL TRAILER SWITCHES

2016-17

4,526

2017-18

5,104

2018-19

5,099

2019-20

4,782

2020-21

4,362

2021-22

4,804

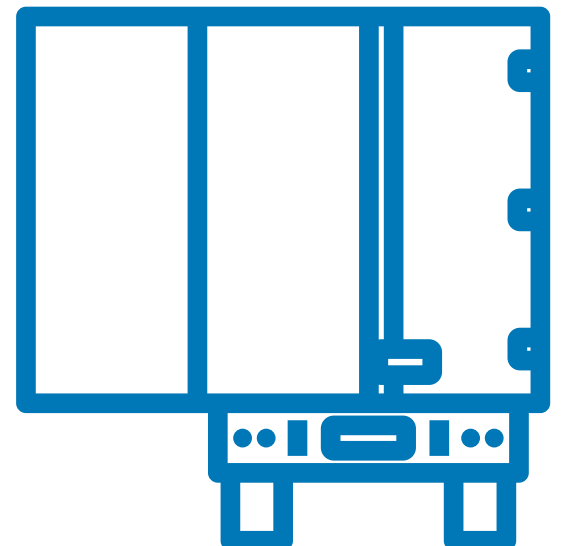
2022-23

4,697

## IMPROVING OUR EFFICIENCY

To learn how to increase the volume of materials we ship on trailers, trailer loading teams at SARCAN have training courses available to them.

These training courses introduce trailer loaders on how to safely, properly, and efficiently load collected materials on SARCAN's trailers.



# FLATTENING WILL GET YOU EVERYWHERE

The most important collection function for increasing the volume of materials we ship from depots is compaction! When we compact our customer's containers, we knock out air and decrease the cubic volume of containers. Less cubic volume translates to loading more containers on our outgoing trailers.

SARCAN has 121 flatteners across the province. This includes our highest efficiency flatteners, called Nexgen flatteners, which are capable of reducing the size of containers to a fourth of their original size. Our flattener fleet at depots includes:

- **26 -- Nexgen flatteners**
- **34 -- Multi-material flatteners**
- **27 -- Prodeva flatteners**
- **34 -- Orwak flatteners**



# Our Carbon Footprint



**Sustainability is at the core of our business. We recognize the importance of measuring our carbon footprint every year. Doing so allows SARCAN to determine what carbon reduction opportunities are possible across our system. This includes the energy used for transportation (between facilities and to salvage markets) as well as the energy used to power our facilities.**



# OUR CARBON FOOTPRINT

**TOTAL GREENHOUSE GASES EMITTED (MTCO<sub>2</sub>E):**

**2022-23**

**6,084.2**

**2021-22**

**6,126.1**

**2020-21**

**5,549.1**

**2019-20**

**5,598.9**

**2018-17**

**6,164.2**

**2017-16**

**5,880.5**

**2016-17**

**5,180.1**

**2015-16**

**5,537.6**

**2014-15**

**5,793.3**

**2013-14**

**6,049.3**

**2012-13**

**6,047.4**

\*\*\*MTCO<sub>2</sub>E = metric tons of carbon dioxide equivalent

\*\*\*All greenhouse gas data was calculated using tools provided by the Greenhouse Gas Protocol ([ghgprotocol.org](http://ghgprotocol.org))



# GHG EMISSIONS (MTCO2E) BY SOURCE:

Energy Use		2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023
Transportation	Collection	1,241.8	1,037.6	1,128.2	1,097.0
	Salvage	1,109.7	1,166.4	1,337.7	1,229.3
	Passenger Car	70.7	39.3	39.3	81.2
	Light Goods	17.6	13.2	52.4	54.6
	Air	0.7	0.0	0.0	13.1
	Bus	0.9	0.0	0.0	0.9
	Forklift	39.9	33.5	62.4	32.5
Facilities	Natural Gas	1,313.8	1,508.7	2,107.0	2,198.2
	Electricity	1,804.4	1,750.3	1,399.3	1,352.7
	Propane	-	-	-	24.6
<b>Total</b>		<b>5,598.9</b>	<b>5,559.1</b>	<b>6,126.3</b>	<b>6,084.2</b>

## ELECTRIC FORKLIFTS:

Since 2014, SARCAN has been modernizing our fleet of loading equipment, replacing propane-powered units with ones powered with electricity. **Making the change to electric means greater energy efficiency and lower GHG emissions.**

- 2014-15: 1 forklift
- 2015-16: 3 forklifts
- 2016-17: 7 forklifts
- 2017-18: 10 forklifts
- 2018-19: 13 forklifts
- 2020-21: 24 forklifts
- 2021-22: 27 forklifts
- 2022-23: 31 forklifts



# 6 Saved Emissions

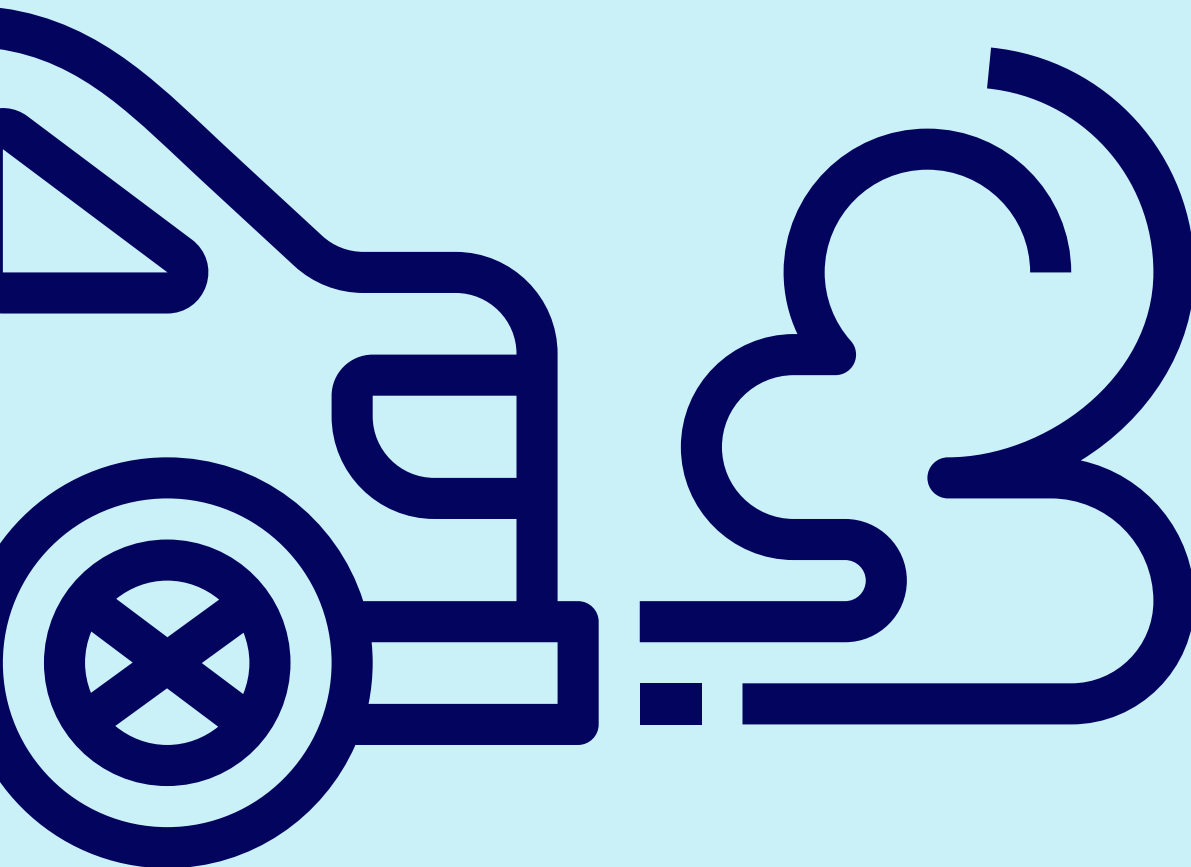
**SARCA**  
RECYCLING  
A DIVISION OF SARCA  
Operated by:  
Harvest Community Inc.

**SARCA**  
RECYCLING  
A DIVISION OF SARCA  
Operated by:  
Harvest Community Inc.

**Our teams prevent greenhouse gas emissions from being released.**

**By replacing raw materials with recycled content in the manufacturing industry, we help avoid the emission of greenhouse gases (GHGs) caused by more energy intensive natural resource extraction.**

**These GHGs, such as carbon dioxide, methane, nitrous oxide and chlorofluorocarbons are the known drivers of man-made climate change.**



# SAVED EMISSIONS

Avoided Emissions			
Material	GHGs resulting from Landfilling Materials (MTCO2E)	GHGs resulting from Recycling Materials (MTCO2E)	Total Change in Emissions (MTCO2E)
Cardboard	52.71	(909.91)	(962.62)
Cartons	86.58	(4,109.36)	(4,195.94)
HDPE Plastic	17.54	(656.64)	(674.18)
PET Plastic	81.00	(4,142.10)	(4,223.10)
Mixed Plastics	6.98	(319.14)	(326.13)
Aluminum Cans	90.87	(40,948.00)	(41,038.90)
Tin Cans	1.22	(110.45)	(111.68)
Glass	199.45	(2,718.67)	(2,918.12)
<b>TOTAL</b>	<b>536.35</b>	<b>(53,914.28)</b>	<b>(54,450.60)</b>

# 5%

Aluminum can be recycled using less than 5 percent of the energy used to make the original product.

## NOTES:

\*\*\*MTCO2E = metric tons of carbon dioxide equivalent

\*\*\*Non-legislated paint, electronics, and batteries are not included in these calculations

\*\*\*Calculated using the U.S. Environmental Protection Agency (EPA)'s Waste Reduction Model (WARM v15, September 2022)

**THIS IS  
EQUIVALENT  
TO...**

Removing annual  
emissions from

**11,561**

passenger vehicles.

Conserving

**23,193,210**

litres of gasoline.

Conserving

**2,268,776**

cylinders of propane used  
for home BBQs.



# 7 Energy Saved

**Recycling saves energy. By diverting resources from landfills and back into the manufacturing sector, SARCAN helps reduce the energy required to extract, refine, and , transport natural resources.**

**By decreasing the need for natural resource extraction and supplying recycled content to manufacturers, we save watts of energy.**



# ENERGY SAVED

Energy Saved			
Material	Energy Used If Resources Were Landfilled (million BTUs)	Energy Used When Resources are Recycled (million BTUs)	Total Change in Energy Use (million BTUs)
Cardboard	(60.54)	(4,383.14)	(4,322.60)
Cartons	(200.34)	(23,834.38)	(23,634.04)
HDPE Plastic	232.26	(38,767.55)	(38,999.81)
PET Plastic	1,072.89	(114,326.28)	(115,399.17)
Mixed Plastics	92.51	(12,076.33)	(12,168.84)
Aluminum Cans	1,203.55	(685,344.43)	(686,547.98)
Tin Cans	16.17	(1,203.74)	(1,219.92)
Glass	2,641.70	(20,929.00)	(23,570.69)
<b>TOTAL</b>	<b>4,998.20</b>	<b>(900,864.85)</b>	<b>(905,863.05)</b>

# 66%

Producing new plastic products from recovered plastic uses only 66% of the energy required to manufacture it from raw materials.

## NOTES:

\*\*\*BTUs = British Thermal Units

\*\*\*Non-legislated paint, electronics, and batteries are not included in these calculations

\*\*\*Calculated using the U.S. Environmental Protection Agency (EPA)'s Waste Reduction Model (WARM v15, September 2022)



**THIS IS  
EQUIVALENT  
TO...**

Conserving enough  
energy to power

**9,888**

for a whole year

Conserving

**155,914**

barrels of oil

Conserving

**28,468,219**

litres of gasoline





# 8 Water Consumption

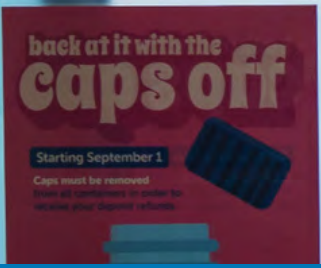


# WATER CONSUMPTION

Location	2018-19 (m3)	2019-20 (m3)	2020-21 (m3)	2021-22 (m3)	2021-22 (m3)
Depots, S	708.4	427.9	475.9	578.7	434.4
Depots, M	1,771.0	1,583.6	2,512.7	2,938.2	2,496.8
Depots, L	1,288.0	1,389.7	1,262.4	1,586.1	1,711.6
Depots, XL	9,971.5	7,043.9	5,679.5	7,111.6	7,389.1
Plants	1,155.5	1,567.4	1,236.5	1,473.3	1,488.8
Office	372.7	382.0	279.7	1,075.8	961.9
<b>TOTAL</b>	<b>15,267.0</b>	<b>12,394.5</b>	<b>11,446.6</b>	<b>14,763.6</b>	<b>14,482.5</b>

**-5%**

SARCAN has reduced our water usage across the province by 5% over the past five years.



# Increasing Access and Awareness



# INCREASING ACCESS AND AWARENESS



SARCAN's impact on the environment goes well beyond our physical operations. We have a much more sizeable impact when our organization encourages people to recycle more and when we educate the public on the importance of recycling and sustainability.

Here are a few initiatives we have launched to increase recycling at SARCAN:



## INCREASING CONVENIENCE

When we make recycling easier, people across Saskatchewan are more likely to recycle. We make recycling at SARCAN more convenient through Drop & Go, which includes:

- Encouraging non-recyclers to use Drop & Go
- Offering expanded hours for Drop & Go (in select locations)

We are also expanding customer access to SARCAN by encouraging discount refund organizations in communities without a SARCAN depot

SARCAN works with schools across Saskatchewan because we understand the importance of helping future recyclers learn about sustainability.

SARCAN offers several resources to help schools become more sustainable, including:

- Recycling bins and bags to make collection and returns easier.
- A guide to establish student green teams.
- Help setting up virtual and traditional bottle drives.



## OUT-OF-HOME RECYCLING

Our market research shows us that people are more likely to recycle properly in their own homes, and less likely to recycle outside of their homes. To encourage more happy returns to SARCAN, we actively look to expand recycling infrastructure outside of the home.

This includes a new line of recycling bins available free of charge to workplaces, arenas, public buildings, restaurants, bars, and other places where beverages are consumed.

Festival time means big fun, and a lot of beverage containers to be recycled! To help divert containers and help organizers achieve their sustainability goals, SARCAN offers sponsorship, recycling carts, bags and more to festivals across Saskatchewan! This year we are recycling sponsors for 18 festivals including:

- SaskTel Saskatchewan Jazz Festival
- Regina Folk Festival
- Country Thunder
- Saskatoon Pride
- Regina Pride
- Ness Creek Music Festival
- Long Day's Night
- Gateway Music Festival



## FESTIVAL RECYCLING



## COMMUNITY BUILDING

SARCAN is proud to be a part of 65 communities across Saskatchewan. We are active members of these communities, and we seek opportunities to keep them clean, green, and vibrant.

Each year, our recycling depots support hundreds of fundraisers through traditional and virtual bottle drives. We also annually support Telemiracle, our corporate charity of choice. This past year our teams raised over \$79,000 for Telemiracle!



# 10 Other Initiatives





# OTHER INITIATIVES

## REDUCING PAPER

---

Conserving resources at SARCAN includes using less paper. The benefits of reduced paper consumption are avoiding the negative effects of deforestation and reducing the energy and emissions used in paper production.

Our vision for a future with reduced paper consumption at SARCAN includes:

- Encouraging more electronic payments and using electronic receipts.
- More electronic communication, leading to reduced printing and mailing.
- Sharing more digital and video promotional content in place of printed materials.

## CONTINUOUS LEARNING

---

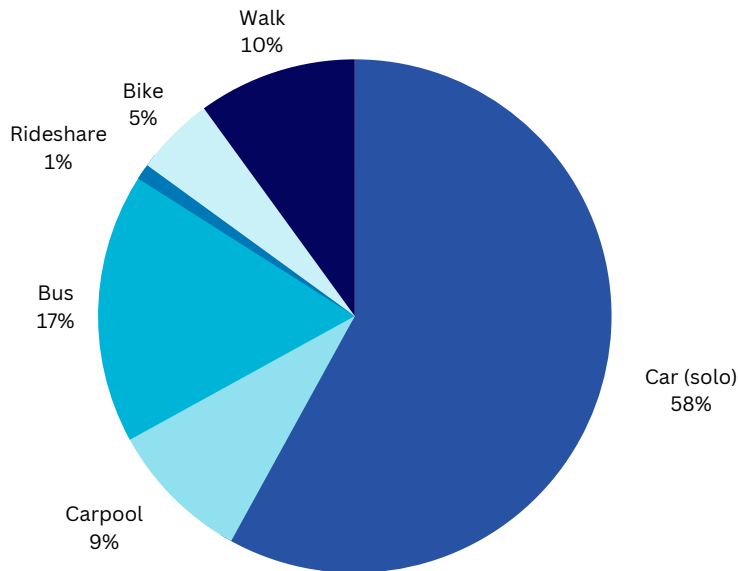
SARCAN is a leading provider of green careers in Saskatchewan, but most people who come to a career at SARCAN come without specific education on environmental sustainability.

Our mission is to enhance our employee's understanding of recycling and sustainability by providing opportunities for continuous learning on environmental protection. This includes:

- Foundational training during onboarding.
- Optional sustainability training courses through our Aspire online learning platform.
- Sustainability presentations during our monthly virtual CAN'ned Wisdom sessions, which have included sessions on zero waste living, composting, and recycling beyond SARCAN.

## SUSTAINABLE COMMUTING

SARCAN's overall impact on the environment includes how our employees get to and from work. While we operate out of 65 communities across Saskatchewan, 17% of SARCAN employees live outside of those communities. Despite the distances many have to travel, a great number of our team members choose lower impact commuting methods:



## COLLABORATIVE DESIGN

SARCAN's teams are sustainability ambassadors. They are overwhelmingly viewed as champions for recycling and sustainable development in those communities. As our team on the ground, employees are asked to share their ideas for improving our impact on the planet. This year, this includes an entire day dedicated to brainstorming a more sustainable future for SARCAN with our Supervisors from across Saskatchewan at our annual Supervisor Summit.





# SARCAN

RECYCLING

A DIVISION OF SARC