



# 2024 Scrap Tire Annual Report Summary

## Purpose of the Scrap Tire Annual Report Summary

The Texas Commission on Environmental Quality (TCEQ) Scrap Tire Program compiles the data from annual scrap tire activity and operational reports to create a report summarizing the number of tires transported and the tires' end uses and destinations. The purpose of the report is to provide information on the state of scrap tire management in Texas to industry professionals, legislators, regulated entities, and citizens.

## Background on the TCEQ Scrap Tire Program

The TCEQ Waste Permits Division regulates the management of used and scrap tires in Texas under the authority of Texas Health and Safety Code Sections 361.011, 361.112, and 361.1125. The regulations in Title 30, Texas Administrative Code (30 TAC), Chapter 328, Subchapter F, outline regulatory requirements and standards related to used and scrap tire management activities. Either the owner or operator of a facility conducting regulated scrap tire management activities is required to obtain registration with TCEQ to ensure the safe management of scrap tires to protect human health and the environment.

## Regulated Tire Management Activities

Regulated management activities include scrap tire transportation, processing, recycling, utilization, storage, and land reclamation projects using tires (LRPUTs). Scrap tire transporters, storage sites, and facilities are required to submit an annual activity report with the number of tires managed and their destinations or end uses. As of September 2024, scrap tire generators and LRPUTs are now required to submit an annual operational status report.

## Reporting Period and Requirements

Scrap tire transporters, as well as the owners or operators of scrap tire facilities and scrap tire storage sites, must submit an annual activity report to TCEQ and include information related to their tire management activities during the calendar year. Annual reports for the preceding calendar year are due on or before March 1.

Scrap tire generators, and the owners or operators of LRPUTs that do not process scrap tires on-site, are now required to submit an annual operational report for their business. This report designates their operational status as either active or inactive.



## **Transporters**

Scrap tire transporters must report the following information using the [Annual Activity Report for Scrap Tire Transporters form \(TCEO-10311\)](#)<sup>1</sup>:

- **Tires collected from generators**
  - Number and type (passenger, truck, off-the-road) of whole used tires and whole scrap tires.
  - Weight of tire pieces and shreds *collected*, listed by generator name and address.
- **Tires delivered to a processor, disposal site, or end-use facility**
  - Number and type (passenger, truck, off-the-road) of whole used tires and whole scrap tires.
  - Weight of tire pieces and shreds *delivered* to each destination or end-use facility, including the names and addresses of these locations.

Used tires with a legal amount of tread remaining may be separated from the total scrap tires collected from a generator and sold for use. These tires are subtracted from the total number of tires collected.

## **Scrap tire facilities and scrap tire storage sites**

Either the owner or operator of a scrap tire facility or storage site must report the following information using the [Annual Activity Report for Scrap Tire Facilities and Scrap Tire Storage Sites form \(TCEO-10305\)](#)<sup>2</sup>:

- **Tires received**
  - Number and type (passenger, truck, off-the-road) of whole used tires and whole scrap tires.
  - Weight of tire pieces and shreds *received* from generators, transporters, or other tire facilities.
- **Tires processed or stored**
  - Number and type (passenger, truck, off-the-road) of whole used tires and whole scrap tires.
  - Weight of tire pieces and shreds *processed and stored* at scrap tire facilities and scrap tire storage sites.
- **Tires delivered to a processor, disposal site, or end-use facility**
  - Number and type of whole used tires and whole scrap tires.
  - Weight of tire pieces and shreds *delivered*, listed by the name and address of the destination or end-use facility.

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<sup>1</sup> [tceq.texas.gov/downloads/permitting/waste-permits/tires/forms/10311.docx](https://tceq.texas.gov/downloads/permitting/waste-permits/tires/forms/10311.docx)

<sup>2</sup> [tceq.texas.gov/downloads/permitting/waste-permits/tires/forms/10305.docx](https://tceq.texas.gov/downloads/permitting/waste-permits/tires/forms/10305.docx)



## **Generators and LRPUS**

The new reporting requirement for temporary and indefinite permits became effective September 1, 2024, for scrap tire generators and LRPUS. These entities must report their operational status annually to TCEQ because their registrations do not have an expiration date (open-ended) and there is no annual reporting requirement of scrap tires managed for these entities. The new annual reporting requirement of their operational status can be found in the Texas Water Code, Section 5.587. This report must be submitted using the [STEERS](#)<sup>3</sup> application by Dec. 31.

## **Number of Active Registrations by Type**

According to agency records, there were 12,008 active scrap tire registrations in 2024. The numbers of each type of activity by registered entities are detailed in Table 1, ordered by the complexity of the activity. **Note:** A single registration may include more than one type of tire management activity.

**Table 1. Number of Active Registrations by Type**

Type of Registered Entity	Number of Registrations
Generator	11,296
Transporter	521
Scrap Tire Facility—Processing	159
Scrap Tire Facility—Recycling	8
Scrap Tire Facility—Energy Recovery	8
Scrap Tire Storage Site	15
LRPUT	17

## **End-Uses and Disposal Rates for Scrap Tires**

The findings presented in this report are based on data submitted by 253 registered scrap tire handlers in Texas. This includes 160 annual activity reports from scrap tire transporters and 93 annual activity reports from scrap tire facilities and storage sites.

Of the reports received, 60 businesses indicated an inactive status, meaning they did not engage in any scrap tire management activities in 2024.

Accordingly, the data and analysis in this report reflect the activities of the 193 businesses that reported active operations.

The discrepancy between the number of reports received and the total number of registered entities is attributed to noncompliance with reporting requirements.

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<sup>3</sup> [www3.tceq.texas.gov/steers/](http://www3.tceq.texas.gov/steers/)



Specifically, some owners or operators failed to submit timely annual reports or did not notify TCEQ of changes to their contact information or business operations.

Based on the latest findings, approximately 39.7 million scrap tires were managed in Texas in 2024. For consistency in reporting, TCEQ defines one scrap tire unit as weighing 20 pounds, regardless of the tire’s actual size.

### **Changes to Report Totals**

This year’s report reflects enhanced data analysis methods which include eliminating double reporting by tracking the movement of tires from small processors to larger processors, and then to their final end-use or disposal facility. Past analyses focused on registered entities’ reporting compliance and the simple aggregate number of scrap tires they reported. The new approach yields a total that is not inflated by intermediate processing steps. As a result, the total amount of scrap tires managed in 2024 was less than the 57 million tires reported in 2023.

To validate data from previous years, TCEQ recalculated the total disposal data from 2022 and 2023 using this improved calculation method. The revised values are provided in Table 2. The revised calculated amounts exclude scrap tires that were exported outside of the state for final disposition.

**Table 2. Updated Overall Quantities of Scrap Tires Managed in Texas**

Reporting Year	Previously Reported Total	New Calculated Total
2022	54,136,217	41,741,100
2023	57,194,502	40,181,942
2024	--	39,770,372

### **Changes to Reporting Definitions**

This reporting year, an additional change was made by introducing a supplemental definitions page developed to assist scrap tire handlers in accurately categorizing and reporting scrap tire end-uses. Previously, *recycling and processing* were a combined end-use category, and reporters frequently used *beneficial use* when other end-use types would be more appropriate. The separation of *recycling and processing* end-uses into distinct categories, and the addition of guidance on when to report *beneficial use*, allows for more accurate reporting and data analysis. The classification of end-use categories has been expanded to provide a more detailed and accurate representation of tire disposition across the state.

The primary end-use or disposition categories for whole used and scrap tires in Texas now include:

- Tire-Derived Fuel
- Crumb Rubber



- Landfill Disposal
- Processing
- Recycling
- Land Reclamation Projects Using Tires
- Beneficial Use

### 2024 Scrap Tire Data

A detailed breakdown of these end-use types and the corresponding number of scrap tire units utilized is presented in Table 3. This table includes all tires that were managed in Texas for the calendar year.

Additionally, Table 4 displays the number of scrap tires that were generated and initially managed in Texas, but whose final reported end-use was outside of the state of Texas. Although reporting of out-of-state end-uses is not required, this information provides valuable insight into broader scrap tire management trends. In 2024, approximately 7.5 million scrap tires were first generated and initially processed in Texas before being exported outside of the state for final disposition.

**Table 3. End-Use Types and Quantities of Tires Used in 2024**

End-Use Type	Approximate Scrap Tire Units Utilized or Disposed	Percent of Utilization
Tire-Derived Fuel	18,401,358	46%
Crumb Rubber	7,579,890	19%
Landfill	7,164,385	18%
Processing	2,544,041	6%
LRPUT	1,871,292	5%
Recycling	1,566,043	4%
Beneficial Use	643,362	2%
<b>Grand Total</b>	<b>39,770,371</b>	<b>100%</b>



**Table 4: Reported Export Uses 2024**

End-Use Type	Approximate Scrap Tire Units Utilized or Disposed	Percent of Utilization
Tire-Derived Fuel	6,182,381	82%
Crumb Rubber	685,158	9%
Recycling	385,073	5%
Beneficial Use	217,740	3%
Landfill	78,000	1%
Processing	172	0%
LRPUT	0	0%
<b>Grand Total</b>	<b>7,548,524</b>	<b>100%</b>

Table 5 provides a three-year overview of tire disposition trends by category, allowing for a year-by-year comparison and an analysis of evolving management practices.

**Table 5. End-Use Types by Year 2022-2024**

Year	Tire-Derived Fuel	Crumb Rubber	Landfill	Processing	LRPUT	Beneficial Use	Recycling	Total
2022	19,028,411	11,164,035	4,889,246	394,250	2,055,936	43,032	4,166,190	41,741,100
2023	16,436,491	9,565,851	5,448,184	1,964,264	3,234,224	108,211	3,424,717	40,181,942
2024	18,401,358	7,579,890	7,164,385	2,544,041	1,871,292	643,362	1,566,043	39,770,372

Figure 1 illustrates the percentage distribution of each end-use category over the same period, focusing on tires managed within Texas. This figure highlights shifts in end-use patterns and the growing diversification of tire disposition strategies.

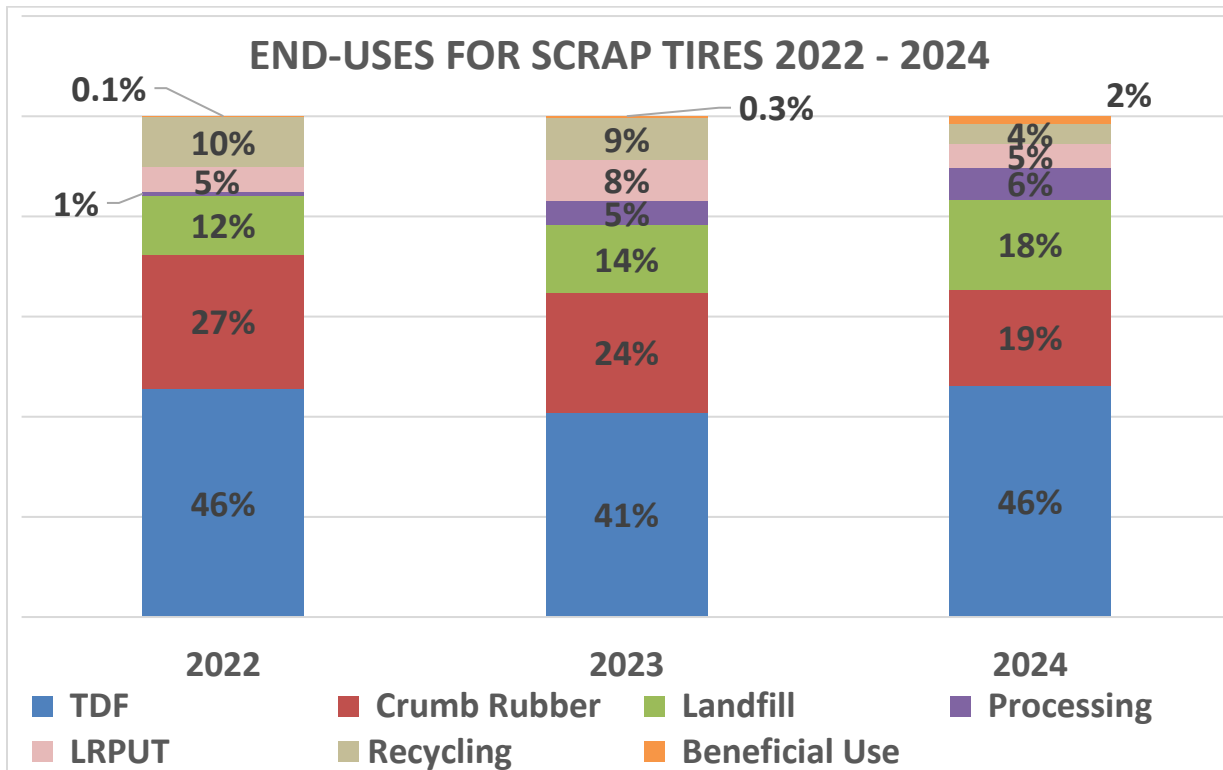


Figure 1. End-Uses for Scrap Tires From 2022 to 2024

### ***Tire-Derived Fuel***

In 2024, the primary end-use for scrap tires was as tire-derived fuel (TDF). Approximately 18.4 million tires, or 46% of the 39.8 million total managed scrap tires, were used for TDF, and this occurred across six registered energy recovery facilities in Texas. Additionally, 6.18 million scrap tires were transported out of state for use as TDF.

TDF is produced by mechanically processing scrap tires into a form suitable for combustion in industrial applications such as cement kilns, pulp and paper mills, and utility boilers. Its high energy content and consistent burn characteristics make it a viable supplemental fuel.

### ***Crumb Rubber***

Crumb rubber represented the second largest end-use category for scrap tires in 2024, with approximately 7.58 million scrap tires, or 19% of the total managed scrap tires. The production of crumb rubber involves the removal of steel belts and textile reinforcements from tires, followed by mechanical grinding or ambient or micronized cryogenic processing to reduce tire material into granulated particles of specified mesh sizes.



Crumb rubber is utilized in a variety of civil and commercial applications, including rubberized asphalt for road surfacing, synthetic turf infill, molded rubber products, and as a component in playgrounds and athletic surfaces.

### ***Landfill Disposal***

In 2024, approximately 7.16 million scrap tires, representing 18% of the total managed scrap tires, were disposed of in municipal solid waste (MSW) landfills. Under TCEQ regulations, whole tires are prohibited from being disposed of in a landfill. Prior to being placed in a landfill, tires must be processed through splitting, quartering, or shredding to reduce the volume of the tires and mitigate risks associated with void space entrapment and vector breeding.

Scrap tire disposal at MSW landfills is authorized under a facility's existing solid waste permit, provided that any associated scrap tire storage or processing activities comply with the operational standards outlined in 30 TAC Chapter 328, Subchapter F. Facilities must maintain documentation of tire quantities received and processed and ensure that all activities are conducted in accordance with their approved MSW permit conditions. The [MSW landfill report](#)<sup>4</sup> identifies and details which landfills accept scrap tires for disposal. MSW landfills report data on all types of waste disposed of at their site each fiscal year. The self-reporting methods used by landfills for reporting and compliance rates can account for the differences in the amount of scrap tires reported to the scrap tire program and to the MSW program.

### ***Processing***

In 2024, of the 39.8 million scrap tires managed, approximately 2.54 million tires, or 6% of the total managed scrap tires in Texas, underwent processing for potential downstream applications or disposal. For the purposes of this report, "processing" refers to mechanical modifications, such as cutting, splitting, or quartering, that alter the tire's original form. This definition aligns with industry practices and is consistent with preparatory steps outlined in EPA's regulatory framework for tire-derived materials. Although these processed materials may ultimately be directed toward specific end-use pathways (e.g., tire-derived fuel, civil engineering applications, or material recovery), the final disposition of these tires could not be confirmed at the time of reporting.

The decrease in the number of tires disposed of under the processing category is a direct result of new data analysis methods. The analysis discovered that some tires may go through several processors before reaching their final disposition, which may have resulted in double reporting in previous years.

### ***LRPUTs***

Approximately 1.87 million scrap tires, representing 5% of the total managed scrap tires in Texas, were utilized in land reclamation projects authorized by TCEQ. These

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<sup>4</sup> [www.tceq.texas.gov/permitting/waste\\_permits/waste\\_planning/wp\\_swasteplan.html](http://www.tceq.texas.gov/permitting/waste_permits/waste_planning/wp_swasteplan.html)



projects are designed to restore disturbed or excavated land to its approximate natural grade in preparation for future reuse.

TCEQ-approved land reclamation activities involving scrap tires must comply with the requirements outlined in 30 TAC Chapter 328, Subchapter F. Only processed tire pieces may be used, and project operators must obtain prior authorization through the scrap tire registration process. Site-specific plans must demonstrate that the use of tire material will not adversely affect human health or the environment and must include provisions for drainage, cover, and long-term site stability.

### ***Recycling***

An estimated 1.57 million scrap tires, representing approximately 4% of the total managed scrap tires in Texas, were directed toward recycling. A scrap tire is classified as recycled when it has been collected, separated, or mechanically processed to create a new, ready-to-sell product.

Recycled tire material is commonly used in the production of molded rubber goods, flooring materials, automotive components, and construction products. This process supports circular economy principles by reducing reliance on virgin materials and minimizing the environmental impact associated with scrap tire disposal.

### ***Other Beneficial Uses***

Approximately 643,000 scrap tires, representing 2% of the total managed scrap tires in Texas, were utilized in beneficial use applications. These uses involve the repurposing of whole or partially processed tires in ways that provide functional value outside of traditional recycling and energy recovery pathways.

Beneficial uses documented during the reporting period included agricultural applications, such as water and feed troughs; landscaping and garden installations; structural applications, such as reinforcement and retaining walls; and marine-related uses, including as bumpers and fenders on boats, docks, and marina infrastructure. Another beneficial use was the installation of vibration mats made from scrap tires on light rail lines. A local transit agency used approximately 400,000 scrap tires in 2024 for vibration control underneath light rail lines. This use of tires attributes 9,350 ft of vibration mats using tire-derived aggregate. While these applications are generally small in scale and site-specific, they contribute to overall waste diversion efforts and support sustainable material reuse practices.

### ***TCEQ Scrap Tire Program Funding***

The Scrap Tire Program operates within a free-market framework, wherein tire dealers independently establish service fees to cover their administrative and tire disposition costs and no fees are collected by or passed along to the state of Texas. There is no application fee required to obtain a scrap tire registration from TCEQ.

Remediation of unauthorized or abandoned tire sites is addressed through financial assurance mechanisms provided by registered scrap tire storage site operators, as



required under TCEQ regulations. In cases where financial assurance is unavailable or insufficient, site cleanup may be supported through supplemental environmental projects (SEPs), which are administered by the TCEQ Office of Legal Services with guidance and consultation from the TCEQ Office of Compliance and Enforcement. These projects allow for the redirection of penalties from enforcement actions toward environmentally beneficial activities, including tire site remediation.

## **TCEQ's Role in Monitoring Scrap Tire Activities and Enforcing Regulations**

TCEQ plays a central role in overseeing the proper management of scrap tires across the state. Through its regional offices, TCEQ monitors scrap tire generators, transporters, storage sites, and processing facilities to ensure compliance with state regulations. These activities are governed by the Texas Health and Safety Code, Chapter 361, and enforced under the Texas Water Code, Chapter 7.

To support transparency and accountability, TCEQ maintains a publicly accessible list of known unauthorized scrap tire sites, which is updated through annual audits and field inspections. These audits help prioritize cleanup efforts and ensure that site conditions are accurately documented.

In addition to enforcement, TCEQ provides technical guidance and educational resources to local governments, businesses, and the public to promote best practices in scrap tire handling, storage, and disposal. TCEQ also offers a collection of self-audit checklists, available on its [Investigative Checklists for Waste webpage](#)<sup>5</sup>, which businesses can use to evaluate their own compliance with environmental regulations. These tools empower facilities to identify and correct potential issues before they result in enforcement actions, fostering a culture of proactive environmental stewardship.

## **Opportunities for Future Progress in Managing Scrap Tires**

TCEQ has made significant efforts toward addressing scrap tire management issues and in reducing the number of unauthorized stockpiles of scrap tires in Texas. Registration and regulatory requirements are designed to facilitate the safe management of tires and minimize adverse impacts on human health and the environment.

Opportunities for future progress include:

- **Funding Cleanup Efforts** - While TCEQ does not have dedicated funding for cleaning up existing and newly created tire stockpiles, the [Regional Solid Waste Grants Program](#)<sup>6</sup> has provided funding to municipalities for the purpose of hosting scrap tire community collection events and cleanup projects on public

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<sup>5</sup> [www.tceq.texas.gov/compliance/investigation/checklists/wastechecklists](http://www.tceq.texas.gov/compliance/investigation/checklists/wastechecklists)

<sup>6</sup> [www.tceq.texas.gov/permitting/waste\\_permits/waste\\_planning/wp\\_grants.html](http://www.tceq.texas.gov/permitting/waste_permits/waste_planning/wp_grants.html)



property and rights-of-way. Additionally, the [SEP Program](#)<sup>7</sup> offers an alternative funding mechanism. SEPs are environmentally beneficial projects that a respondent agrees to undertake as part of a settlement in an enforcement action, often in lieu of paying the full administrative penalty. These projects can include scrap tire removal, site remediation, and public education initiatives. Local governments and nonprofit organizations may propose custom SEPs or contribute to pre-approved projects, helping communities address tire stockpiles while achieving broader environmental and public health benefits.

- **Market Expansion** - Expanding new markets and end-users for scrap tires, especially in circular and transportation-related applications, can create sustainable solutions.
- **Combatting Illegal Dumping** - There are opportunities to implement measures, like local ordinances and amnesty days, to prevent the unauthorized disposal of scrap tires.
- **Enhancing Compliance** - Strengthening compliance with TCEQ and local scrap tire regulations ensures that all stakeholders adhere to best practices, leading to better management overall.

## Scrap Tire Sites in Texas

TCEQ maintains a list of known unauthorized scrap tire sites across the state. These locations are shown in Figure 2, along with estimates of the number of tires at each site. The scale of these sites varies widely from a few hundred tires to several million, totaling approximately 13.1 million tires across 124 sites.

In 2024, 37 sites were added to the list of unauthorized sites, due to improved collaboration with TCEQ regional offices.

In 2024, TCEQ oversaw the removal of approximately 584,451 tires from 23 unauthorized sites, including the complete cleanup of 16 smaller sites.

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<sup>7</sup> [www.tceq.texas.gov/compliance/enforcement/sep](http://www.tceq.texas.gov/compliance/enforcement/sep)



Figure 2. Unauthorized Scrap Tire Sites in Texas

