

# Tire Recycling Downstream Products Market to Reach USD 10.7 Billion by 2035, Growing at 4.2% CAGR from 2025 | TMR

Global tire recycling downstream products market valued at US\$ 6.8 Bn in 2024, projected to grow at 4.2% CAGR to reach US\$ 10.7 Bn by 2035.

WILMINGTON, DE, UNITED STATES, September 15, 2025 / EINPresswire.com/ -- As global industries move toward sustainable development and circular economy practices, tire recycling has become an essential link in reducing waste and recovering valuable materials. Every year, over one billion tires reach end-of-life (ELT), presenting both a waste

Tire Recycling Downstream Products Market Outlook 2035

The global industry valued at US\$ 6.8 Bn in 2024

The global tire recycling downstream products market is estimated to reach US\$ 10.7 Bn by the end of 2035

management challenge and a resource recovery opportunity. Through advanced recycling methods such as shredding, pyrolysis, cryogenic grinding, and devulcanization, waste tires are converted into a portfolio of downstream products including crumb rubber, tire-derived fuel (TDF), recovered carbon black (rCB), pyrolysis oil, reclaimed rubber, rubber powder, and recycled steel.

The global <u>tire recycling downstream products market</u> was valued at US\$ 6.8 billion in 2024, and it is projected to grow at a CAGR of 4.2% from 2025 to 2035, reaching US\$ 10.7 billion by 2035. The market's expansion is driven by sustainability mandates, extended producer responsibility (EPR) policies, rising demand for recycled materials in industries, and technological innovations that improve product quality and broaden end-use applications.

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The tire recycling downstream products industry is entering a growth phase where regulation, technology, and circular economy initiatives converge. The drivers are clear:

Waste Management Necessity: ELTs are one of the largest non-biodegradable waste streams globally. Recycling is no longer optional—it's mandatory.

Circular Economy Push: Downstream products like crumb rubber, rCB, and pyrolysis oil are finding increased acceptance as sustainable substitutes for virgin raw materials.

Decarbonization & Low-Carbon Fuels: Tire-derived fuel and pyrolysis oil are gaining traction as industrial energy sources aligned with carbon reduction targets.

Infrastructure Development: Governments are promoting rubberized asphalt for road construction, ensuring stable demand for crumb rubber.

Technological Advances: Pyrolysis, devulcanization, and fine milling are improving product yields, quality, and economic viability.

Despite modest growth compared to other recycling industries, the tire recycling downstream products market is resilient, supported by regulatory frameworks and the rising cost of virgin raw materials in the rubber and polymer sectors.

Global Tire Recycling Downstream Products Market Overview

At its core, the tire recycling downstream products market involves converting waste tires into value-added materials that can be reintegrated into industrial and commercial supply chains.

# **Key Products:**

Crumb Rubber – Used in asphalt paving, playground surfaces, sports fields, and molded products.

Tire-Derived Aggregate (TDA) – Applied in drainage systems, road base, and civil engineering projects.

Recovered Carbon Black (rCB) – Substitute for virgin carbon black in tire manufacturing, plastics, inks, and coatings.

Tire-Derived Fuel (TDF) – Utilized in cement kilns, paper mills, and utility boilers as a cost-effective energy source.

Pyrolysis Oil – Industrial fuel and chemical feedstock alternative to fossil oils.

Reclaimed Rubber & Rubber Powder – Used in tires, mats, gaskets, and adhesives.

Recycled Steel, Fiber, and Nylon – Sold as scrap metal or reinforcement fibers in construction materials.

# Applications:

Construction & Infrastructure (rubberized asphalt, aggregates). Industrial Fuels (cement, utilities).

Tire & Rubber Manufacturing (rCB, reclaimed rubber). Consumer Products (playgrounds, mats, flooring).

**Market Drivers** 

Regulatory Push Toward Circular Economy and Sustainable Infrastructure Governments worldwide are embedding circular economy mandates into environmental policy.

EPR Policies: Producers are responsible for collecting and recycling tires at end-of-life. Landfill Bans: Many countries prohibit tire disposal in landfills, increasing recycling feedstock. Infrastructure Programs: Funding for rubberized asphalt ensures a steady demand for crumb rubber.

Carbon Goals: Cement and utility sectors are switching to TDF and pyrolysis oil to meet emissions targets.

This regulatory framework creates predictable feedstock supply and market demand for downstream products.

Advancements in Recycling Technologies

The evolution of recycling techniques has enabled higher-value recovery.

Pyrolysis: Converts tires into rCB, pyrolysis oil, and gas with improved yields.

Devulcanization: Breaks sulfur bonds, producing reclaimed rubber suitable for tire and rubber manufacturing.

Cryogenic Grinding: Creates ultra-fine rubber powders for specialty applications.

Digital Traceability: Blockchain-enabled systems like KleanLoop improve feedstock-to-product tracking.

These advancements are pushing downstream products up the value chain, allowing them to compete directly with virgin materials.

Market Segmentation

By Product

Crumb Rubber – Leading segment due to widespread use in roads, playgrounds, and molded products.

TDF – Established industrial fuel but facing decarbonization pressures.

rCB – Fast-growing segment as a sustainable replacement for virgin carbon black.

Pyrolysis Oil – Gaining traction in industrial boilers and chemical feedstocks.

Rubber Powder & Reclaimed Rubber – Important for tire, polymer, and adhesive industries.

By Recycling Technique

Pyrolysis – Expanding due to high-value outputs.

Mechanical Shredding – Dominant for crumb rubber and TDA production.

Cryogenic Processing – Growing in specialized markets.

Devulcanization & Microwave - Emerging technologies for reclaimed rubber.

# By End-Use

Construction & Infrastructure – Largest segment (rubberized asphalt, aggregates).

Cement Manufacturing & Utilities - Major demand for TDF.

Tires & Rubber – Demand for rCB, reclaimed rubber, and powders.

Sports & Playgrounds – Stable demand for crumb rubber.

Crumb Rubber: The Leading Segment

Crumb rubber is the most prominent product in the downstream market due to:

Infrastructure Push: Mandated or incentivized use in road construction.

Performance Benefits: Improved road durability, reduced noise, and better skid resistance. Cost Savings: Provides a low-cost alternative to virgin rubber in molded products and flooring. Consumer Goods Uptake: Increasing use in mats, playground surfaces, and sports complexes. With rising raw material costs in the rubber sector, crumb rubber has become a sustainable, affordable alternative.

Regional Market Insights

Asia-Pacific (38.7% Market Share)

China & India dominate with large ELT volumes, supportive government policies, and rising use of rubberized asphalt.

Expansion of pyrolysis and crumb rubber facilities across Southeast Asia.

Growing demand from domestic rubber manufacturing industries.

### North America

Mature tire collection and recycling infrastructure.

Consistent demand for crumb rubber asphalt and TDF in cement kilns.

Strong innovation hub for rCB recovery and integration with tire manufacturers.

# Europe

Strict EPR mandates and landfill bans.

Strong rCB adoption, supported by EU decarbonization policies.

Regional projects funded through sustainability-focused EU programs.

### Latin America

Brazil leads with a combination of EPR policies and growing road construction projects. Emerging demand for TDF in cement industries.

### Middle East & Africa

Early-stage adoption of recycling infrastructure. Government focus on waste diversion and industrial fuel substitution. Long-term potential due to rising vehicle ownership and ELT accumulation.

# Competitive Landscape

The market is moderately fragmented, with established recyclers and emerging technology players.

# **Key Companies:**

Liberty Tire Recycling (U.S.) – Leading in crumb rubber and aggregates.

GENAN Holding A/S (Denmark) – Global leader in tire granulation and crumb rubber.

Scandinavian Enviro Systems AB (Sweden) – Innovator in recovered carbon black (rCB).

Black Bear Carbon (Netherlands) – Focused on sustainable rCB for tire and plastics.

Bolder Industries (U.S./EU) – Producing rCB, pyrolysis oil, and steel.

Klean Industries (Canada) – Advanced pyrolysis and traceability solutions.

ResourceCo Pty Ltd. (Australia) – Leading supplier of TDF.

# Strategic Approaches:

Investment in upgraded pyrolysis facilities.

Partnerships with tire manufacturers, cement companies, and municipalities.

Expansion in Asia-Pacific and Latin America.

R&D for higher-value downstream products like specialty rCB.

# **Recent Developments**

Klean Industries (2024): Secured REACH registration for tire pyrolysis oil, easing market entry in Europe. Expanded rCB upgrading plants in India and Malaysia.

Bolder Industries (2025): Announced Antwerp facility to process 6 million tires annually, producing BolderBlack (rCB) and BolderOil, with ISCC certification targets.

Black Bear Carbon: Expanded partnerships with tire and plastics manufacturers for rCB integration.

Enviro Systems: Advanced devulcanization technologies for reclaimed rubber.

These developments highlight the shift toward high-value recycling outputs and global scale-up.

# Challenges

High Capital Costs – Advanced pyrolysis and devulcanization plants require significant investment.

Quality Consistency – Variability in feedstock and output quality limits adoption in premium markets.

Competition from Virgin Materials – Recycled products must compete with low-cost virgin rubber, fuel, and carbon black.

Environmental Scrutiny – Concerns around pyrolysis emissions and crumb rubber's health impacts.

Despite these hurdles, regulatory support and technology improvements are steadily addressing industry challenges.

Tire Recycling Downstream Products Market Outlook to 2035

By 2035, the tire recycling downstream products industry will see:

Mainstream Adoption of rCB – As a sustainable alternative to virgin carbon black.

Growth in Pyrolysis Oil & Industrial Applications – As industries seek low-carbon fuels.

Crumb Rubber Mandates in Roads – Cementing its place as a stable market driver.

Global Expansion of Recycling Facilities – Especially in Asia-Pacific, Latin America, and Africa.

Circular Economy Integration – Stronger partnerships between recyclers, tire OEMs, and endusers.

The market will transform from a waste management solution to a strategic sustainability industry supporting multiple sectors.

The tire recycling downstream products market is steadily gaining importance in the global sustainability landscape. With the dual pressures of waste management and circular economy adoption, the industry is shifting toward value-added, sustainable products such as crumb rubber, recovered carbon black, and pyrolysis oil.

By 2035, the market is projected to reach US\$ 10.7 billion, underpinned by regulatory mandates, infrastructure funding, and industrial decarbonization strategies. Asia-Pacific will lead in volume, while North America and Europe will spearhead technology-driven advancements.

Ultimately, tire recycling downstream products will play a crucial role in reducing landfill waste, conserving resources, and enabling a more circular industrial economy.

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