



TRENDS IN SUSTAINABILITY REPORTING AMONG TOP RUBBER PRODUCING COMPANIES

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INTRODUCTION

At Circular Rubber Platform our mission is to make rubber circularity the norm. We see the future of rubber as one where the ability to produce high quality rubber with bio-based or recycled content will increase, and where the use of recycled and bio-based materials for less demanding rubber applications will become standard practice.


The rubber industry is undergoing a transformation as it seeks to address its environmental impact. To understand how this transformation is taking shape, this whitepaper analyzes sustainability reports of leading companies across different rubber product categories, focusing on how they are incorporating bio-based materials, recycled content, and renewable waste into their operations and rubber products. See below the overview with sources linked.

OVERVIEW OF REPORTS

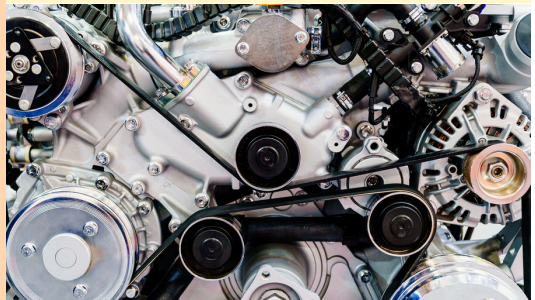
<u>Tire Producers</u>	<u>Automotive Industry</u>	<u>(Sports) Shoes Companies</u>	<u>General Rubber Goods</u>
<u>Bridgestone</u>	<u>Toyota</u>	<u>Nike</u>	<u>Freudenberg</u>
<u>Michelin</u>	<u>BMW</u>	<u>Adidas</u>	<u>Hutchinson</u>
<u>Goodyear</u>	<u>Tesla</u>	<u>Deckers Brands</u>	<u>CooperStandardAuto</u>
<u>Continental</u>	<u>Nissan</u>	<u>On Holding</u>	<u>Gates Corp</u>
<u>Sumitomo</u>	<u>GM</u>	<u>Skechers</u>	<u>Angst+Pfister</u>
<u>Hankook</u>	<u>BYD</u>	<u>Birkenstock</u>	<u>Eriks</u>
<u>Pirelli</u>	<u>Ford</u>	<u>VF Corp</u>	<u>Carlisle</u>
<u>Yokohama</u>	<u>Honda</u>	<u>ASICS</u>	<u>NOK Inc.</u>
<u>ZC Rubber</u>	<u>Volkswagen Group</u>	<u>Puma</u>	<u>Parker Hannifin Corp</u>
<u>Sailun</u>	<u>Mercedes-Benz Group</u>	<u>Decathlon</u>	<u>Trelleborg</u>

KEY TRENDS PER CATEGORY

TIRE PRODUCERS


CIRCULARITY	BIO-BASED MATERIALS
<ul style="list-style-type: none">• High recycled content targets for new tires, with some companies disclosing specific percentages achieved.• Investment in advanced recycling technologies like pyrolysis to recover materials from end-of-life tires, reducing waste and reliance on virgin materials.• Use of renewable waste materials, such as rice husk ash silica, to replace traditional sand-based silica.	<p>Research and development into alternative sources of natural rubber, such as guayule and dandelion, to reduce dependence on traditional rubber plantations and potential deforestation risks.</p> 

AUTOMOTIVE INDUSTRY


LIGHTWEIGHTING & EFFICIENCY	BIO-BASED MATERIALS
<ul style="list-style-type: none">• Development of lightweight rubber components using recycled content and renewable fillers to improve fuel efficiency in vehicles.• Focus on extending the lifespan of rubber components through innovative design and material selection, reducing waste and resource consumption.	<p>Exploration of bio-based rubber for seals, hoses, and other components to reduce reliance on petroleum-based synthetic rubber.</p> 

KEY TRENDS PER CATEGORY

GENERAL RUBBER GOODS

PRODUCT DIVERSIFICATION	BIO-BASED MATERIALS
<ul style="list-style-type: none">• Growing use of recycled content and bio-based materials in a wide range of products, from industrial components to consumer goods.• Innovation in material blends and manufacturing processes to optimize performance and sustainability.	<ul style="list-style-type: none">• Increased use of bio-based rubbers derived from diverse feedstocks/• Development of bio-based rubber compounds for specific performance requirements in various applications 

SPORTS SHOES COMPANIES

RECYCLED CONTENT	BIO-BASED MATERIALS
<ul style="list-style-type: none">• Use of recycled rubber and plastics in footwear, with some companies setting ambitious targets for recycled content across their product lines.• Initiatives to collect and recycle old shoes, closing the loop and reducing waste.	<p>Research into bio-based alternatives for rubber and other components, such as foams and midsoles, to reduce environmental impact.</p> 



MAIN OBSERVATIONS

Firstly, recycled content is a prominent focus across all categories. Tire producers, for example, are setting ambitious targets for incorporating recycled materials into new tires. Michelin aims for 40% recycled content by 2030 (Michelin, p. 9), while Bridgestone is targeting 100% sustainable materials by 2050, including a significant proportion of recycled materials (Bridgestone, p. 6). In world of sports shoes, Adidas is committed to using 60% recycled polyester in all its products from 2024. This widespread emphasis on recycled content reflects a growing commitment to circular economy principles and reducing reliance on virgin materials.

Secondly, the industry is increasingly utilizing renewable waste materials in rubber production. Several tire producers are incorporating rice husk ash silica as a sustainable alternative to conventional silica derived from sand (Pirelli, p. 37). This could not only reduce environmental impact but also enhance tire performance by improving grip and fuel efficiency. Companies like Trelleborg are aiming for 25% bio-based or recycled raw material by 2030 (Trelleborg, p. 9). Such approaches to waste utilization contribute to a more circular economy and reduce dependence on virgin materials.

A vertical strip on the left side of the page shows an aerial view of a dense, lush green forest with many trees and thick foliage.

MAIN OBSERVATIONS

Thirdly, there is a clear trend toward bio-based materials across different product categories. Tire producers are actively researching and developing alternative sources of natural rubber (e.g. guayule and dandelion), to reduce reliance on traditional rubber plantations and mitigate deforestation risks (Pirelli, p. 73). In the sports shoes industry, companies like Nike are exploring the use of bio-based materials for footwear components, such as foams and midsoles, to reduce their environmental impact (Nike, p. 102). Also in the general rubber goods category, companies are increasingly incorporating bio-based rubbers derived from diverse feedstocks, including guayule, dandelion, and agricultural residues, to enhance product sustainability.

Finally, while climate change mitigation remains a key focus, with companies setting emissions reduction targets and investing in renewable energy, reporting on climate change adaptation is less prevalent. There is a need for companies to assess and disclose their vulnerability to climate change impacts and develop comprehensive adaptation strategies.

LIMITATIONS

It is important to note that this analysis is based solely on information disclosed in the companies' sustainability reports. While these reports provide valuable insights into sustainability initiatives and performance, they represent a self-reported perspective. It is crucial to acknowledge that the accuracy and transparency of the reported data rely on the companies' commitment to honest and comprehensive disclosure. Further investigation and verification may be necessary to gain a complete understanding of the rubber industry's sustainability landscape.



APPENDIX

Tire producers

Category	Trend	Description	Companies
Bio-based Materials	Increasing Adoption	Most manufacturers are actively researching and increasing the use of bio-based alternatives for natural rubber.	Bridgestone, Continental, Goodyear, Michelin, Pirelli, Yokohama
	Focus on Sustainability	The drive towards bio-based materials stems from a need to reduce reliance on fossil fuels and decrease environmental impact.	Bridgestone, Continental, Goodyear, Michelin, Pirelli, Yokohama
	Continuous Improvement	Companies are investing in R&D to enhance the performance and availability of bio-based rubber options.	Bridgestone, Continental, Goodyear, Michelin, Pirelli
Recycled Content	Significant Growth	There's a clear trend towards increasing the recycled content in tyres.	All companies
	Technological Advancements	Companies are developing advanced recycling technologies to recover valuable materials from end-of-life tyres.	Bridgestone, Goodyear, Michelin, Pirelli, Yokohama
	Closed-Loop Systems	Efforts are focused on creating a tire-to-tire circular economy, where materials are recycled and reused.	Goodyear, Michelin, Pirelli
Renewable Waste	Waste Reduction	Tyre producers are actively working to reduce waste generated during production.	All companies
	Circular Economy Practices	Companies are implementing circular economy models to minimize waste and reuse materials.	Continental, Goodyear, Michelin, Pirelli, Sumitomo Rubber
	Sustainable Sourcing	There's an emphasis on responsible sourcing of natural rubber and promoting sustainable practices.	Bridgestone, Continental, Goodyear, Michelin, Pirelli, Sumitomo Rubber, Yokohama

APPENDIX

Automotive industry

Category	Trend	Companies Mentioning	Example Goal/Initiative	Timeline
Recycled Content	Increasing use of recycled rubber in tires: This is a clear focus, driven by the need to reduce waste and reliance on virgin materials.	BMW, Toyota, Tesla (indirectly through tire remanufacturing)	BMW: Increase the proportion of recycled materials in tires.	Future
	Growing use of recycled rubber in other components: Companies are exploring recycled rubber in various parts beyond tires.	Ford, Honda, Volkswagen Group, Mercedes-Benz	Ford: 100% recycled post-consumer plastics to produce automotive parts (likely includes rubber components).	2022
Bio-Based Materials	Exploration of bio-based alternatives to rubber: While still in early stages, there's a growing interest in sustainable alternatives to synthetic rubber.	Ford, Volkswagen Group	Ford: Soy foam seat cushions (potentially replacing some rubber-based foams).	2008-present
Renewable Waste	Research into innovative materials from renewable sources: Companies are looking at ways to utilize waste streams to create new materials, potentially including rubber alternatives.	Ford, Volkswagen Group	Ford: Researching the use of bamboo, olive tree fibers, and other renewable materials.	2023
Tire Remanufacturing	Emphasis on tire remanufacturing and recycling: This reduces waste and extends the life cycle of tires.	Toyota, Tesla	Toyota: Research into the innovation of tire remanufacturing.	Ongoing
Overall	Strong focus on circularity: The industry is moving towards a more circular economy for rubber, aiming to reduce environmental impact and resource consumption.	All companies		

APPENDIX

Sport shoes

Category	Trend	Companies Mentioning	Example Goal	Timeline
Recycled Content	Increasing use of recycled rubber in footwear	Nike, Adidas, Skechers, Deckers, ASICS, PUMA, On Running, Decathlon	Achieve 10% recycled rubber across all footwear (Nike)	FY25
Recycled Content	Using recycled rubber in outsoles	Skechers, VF Corp	All footwear included in the Our Planet Matters product line produced from August 2023 onward is made with at least 20% recycled content of the upper by weight (Skechers)	FY23
Bio-Based	Increasing use of bio-based materials in midsoles and outsoles	VF Corp, Deckers, ASICS, PUMA, Decathlon	Partially derive at least 50% of the UltraRange VR3's EcoCush™ midsole from biobased EVA foam (VF Corp)	FY23
Renewable Waste	Exploring closed-loop recycling of rubber waste	Nike	Expand closed-loop recycling of rubber scraps (which make up over 22% of footwear waste) (Nike)	Ongoing

APPENDIX

General Rubber Goods

Category	Trend	Companies Mentioning	Example Goal	Timeline
Recycled Content	Increase the use of recycled rubber	Freudenberg	"Complete new frontend made from 100% Post-Consumer recycled materials"	2024
Waste Reduction	Minimize waste generation and landfill	Trelleborg	"100% waste diversion rate globally"	2025
Sustainable Sourcing	Source sustainable raw materials	Freudenberg	"100% sustainably sourced natural rubber"	Not specified
Product Innovation	Develop innovative and sustainable rubber products	Freudenberg, Trelleborg	Freudenberg: "Products with new functions by biobased fillers (as from plant-based raw materials instead of fossil-based)"	2023
		Trelleborg	"New concept for sealing solution, extending it's lifecycle and more recyclable"	2023
Emissions Reduction	Reduce greenhouse gas emissions from rubber production	Parker-Hannifin	"25% reduction of Scope 1 and 2 emissions"	2025