

# Introduction of Hankook Sustainable Material Technology & ISCC PLUS Application

2024.1.23  
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Tire & Technology



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# 01 Sustainability Trend



## Regulation Trend for Tires

### Global vehicle approval process

Homologation approval must be done  
→ It allows a product to enter a market



Europe) e mark



Korea) KC



China) CCC

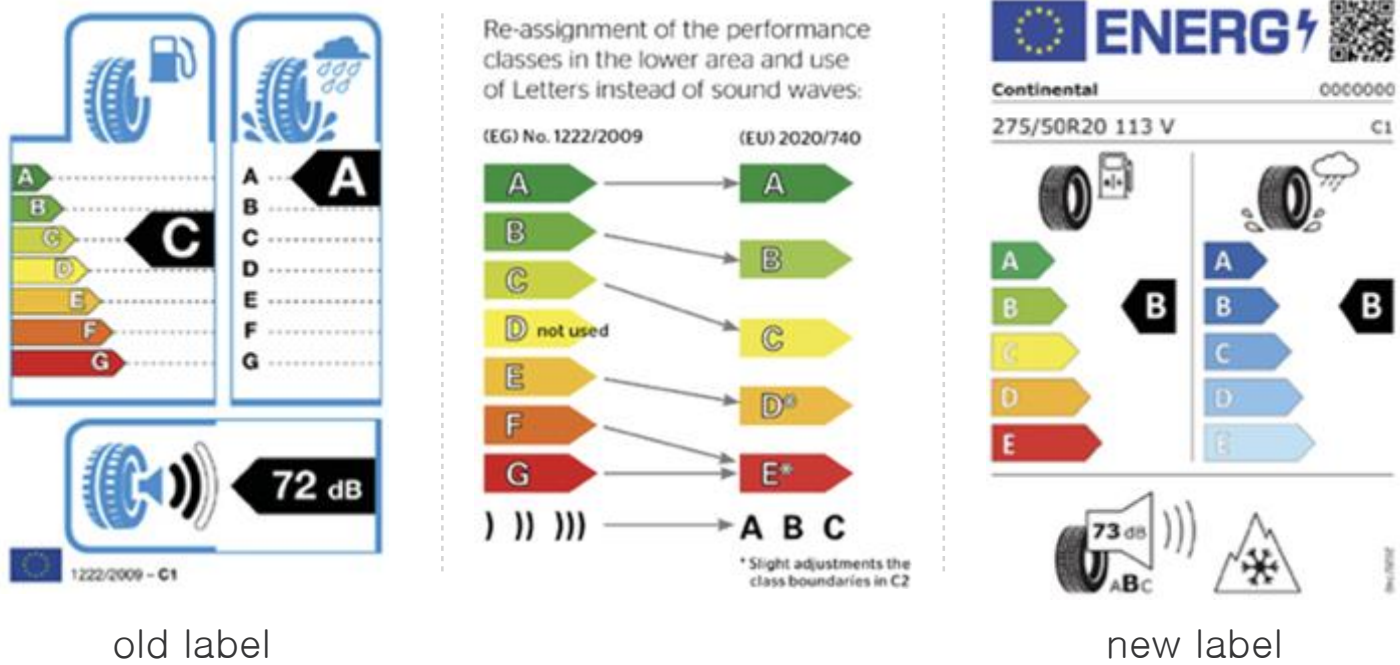


### Tire labeling regulation

Labeling : RR / Wet-grip / Noise



### Advancement of labeling standards



### Regulations for sustainability



### European Green Deal

- Eco design regulation (Tire)
- EU Act on Corporate Due Diligence in Supply Chains (Rubber etc.)
- EU Carbon Border Adjustment Mechanism (CBAM)
- EURO 7



### USA regulations

- USTMA Safer Consumer Product Regulations (6PPD)
- Clean Air Act
- Inflation Reduction Act (IRA)

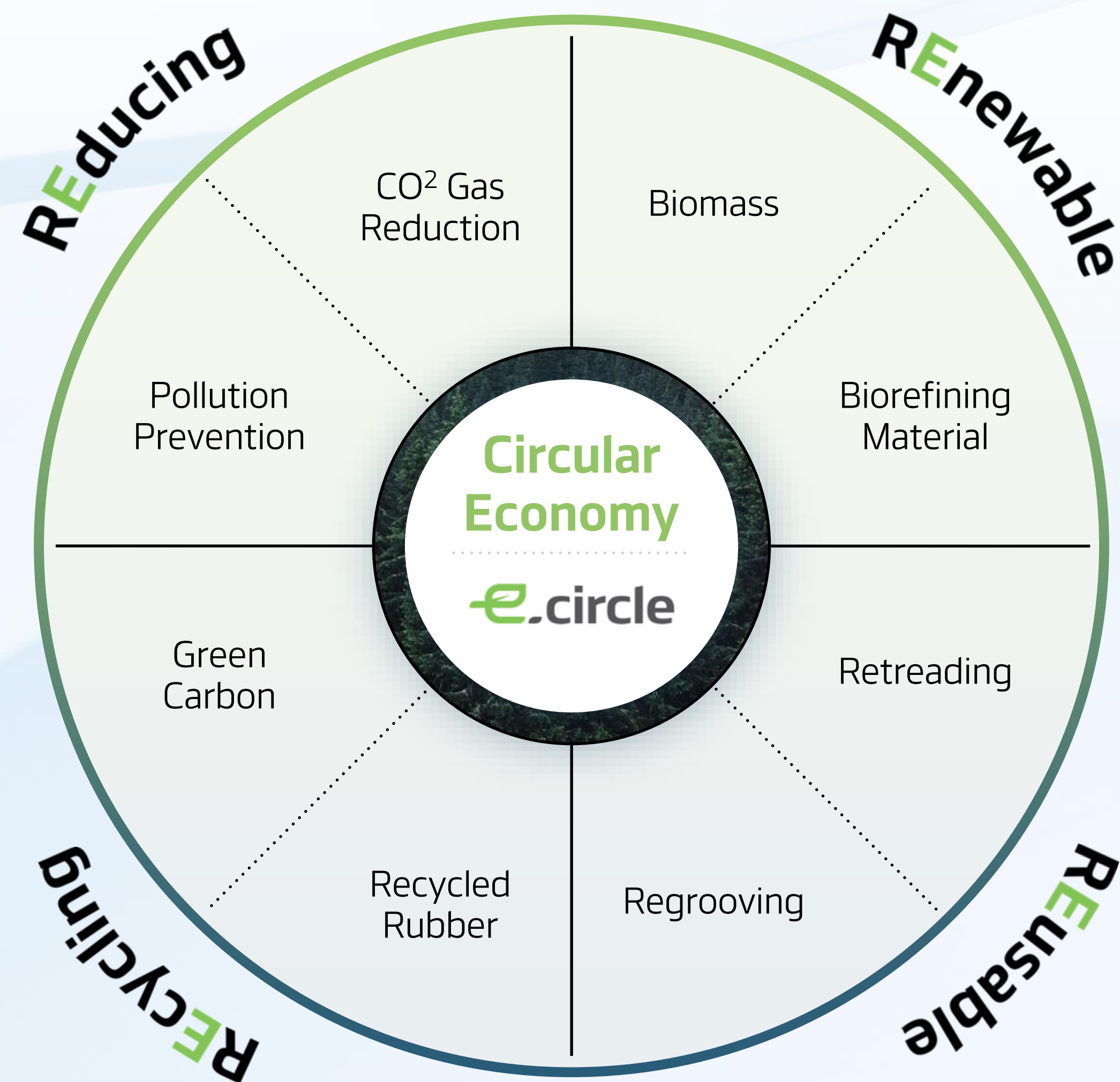


02

# Current Status of Sustainable Material

Key technology for the carbon-neutral goal

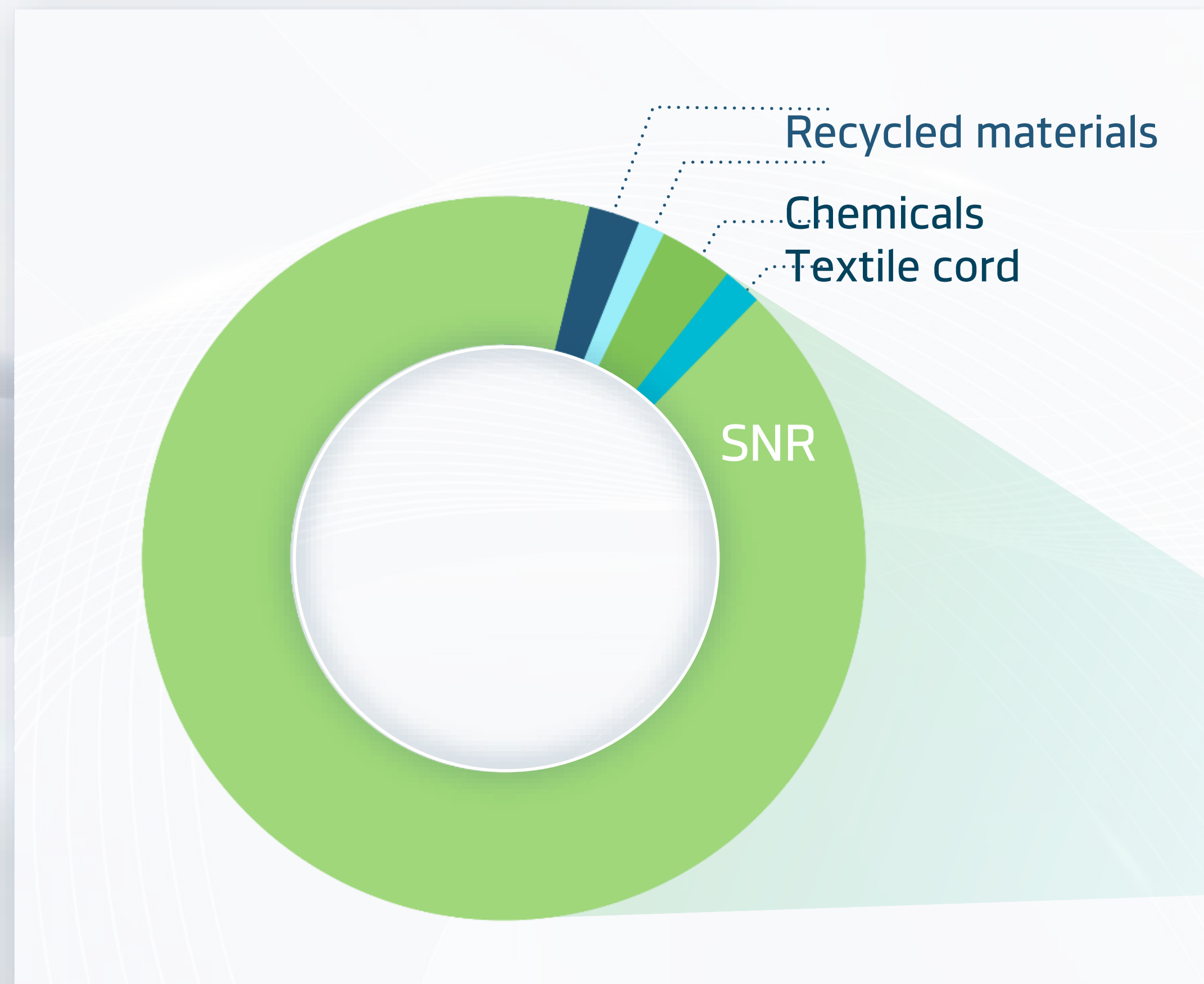




# Short & Long Term Goal of Sustainable Material

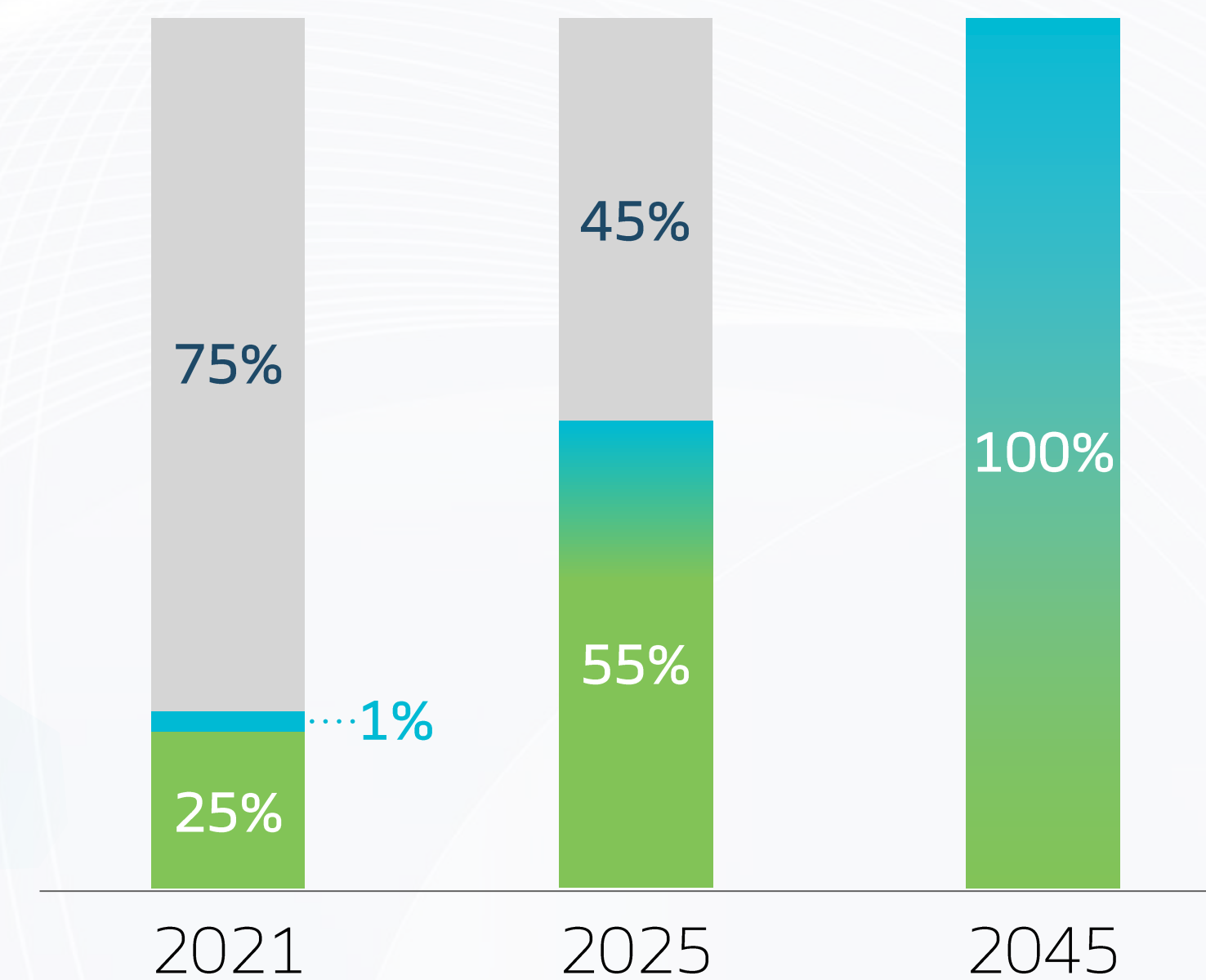


- Raw Material Sustainable Supply Chain Enhancement
- Goal of Technical Achievement with Sustainable Materials



## Plan for Sustainable Material Tech Development (wt%)

■ Renewable (Bio-based) ■ Recycle ■ Petroleum

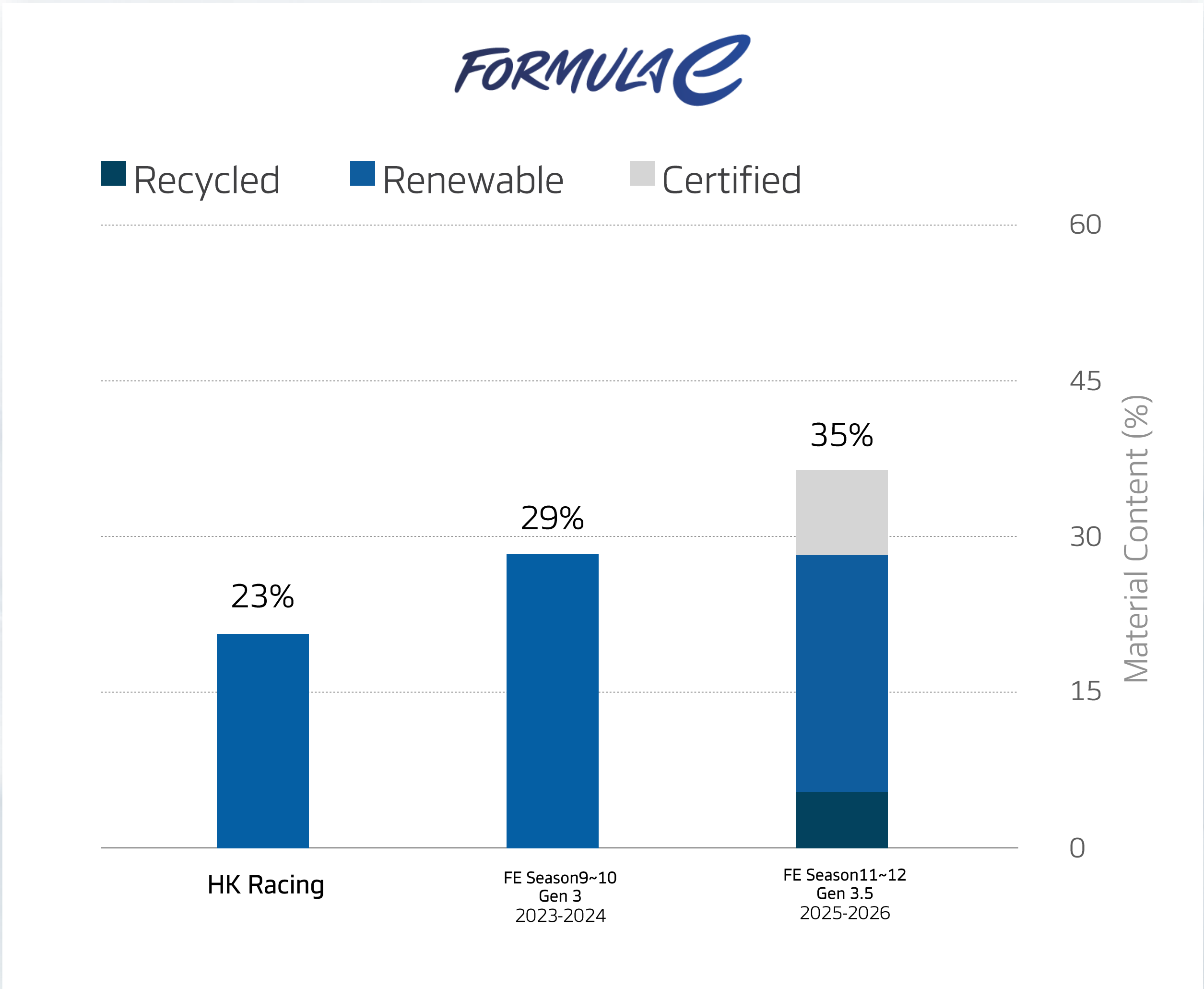


\*These targets are based on achievable technology for sustainable materials

# Formula E Tire Sustainable Raw Material Application Plan



## RAW MATERIAL PRODUCTION





# Sustainable Materials for Tires



\* Sustainable materials can be supplied from ISCC PLUS certified suppliers.



03

# New Project for Tire-to-Tire Circular Economy Model

Building circular economy model through whole tire's life-cycle

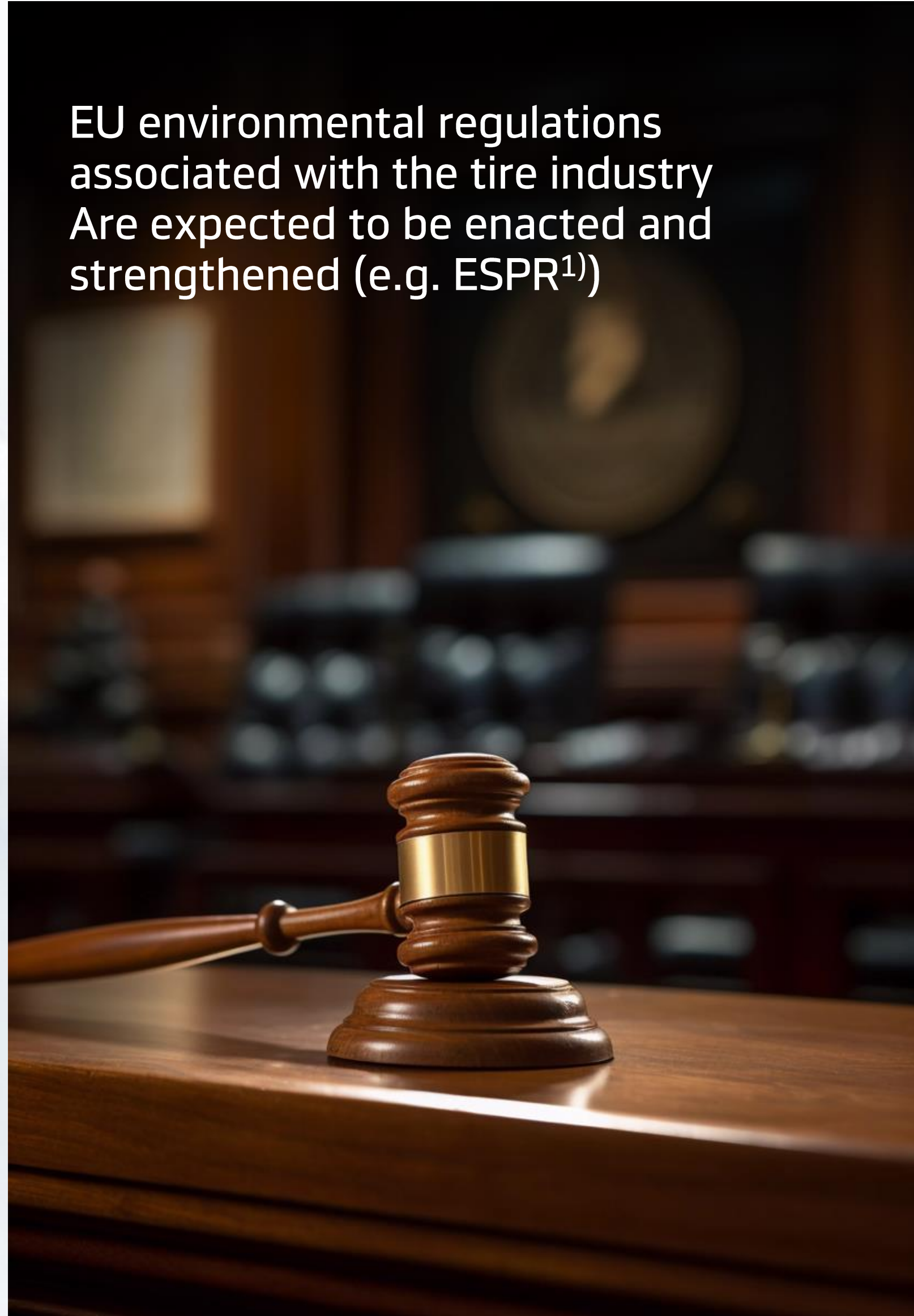




# Backgrounds & Objectives



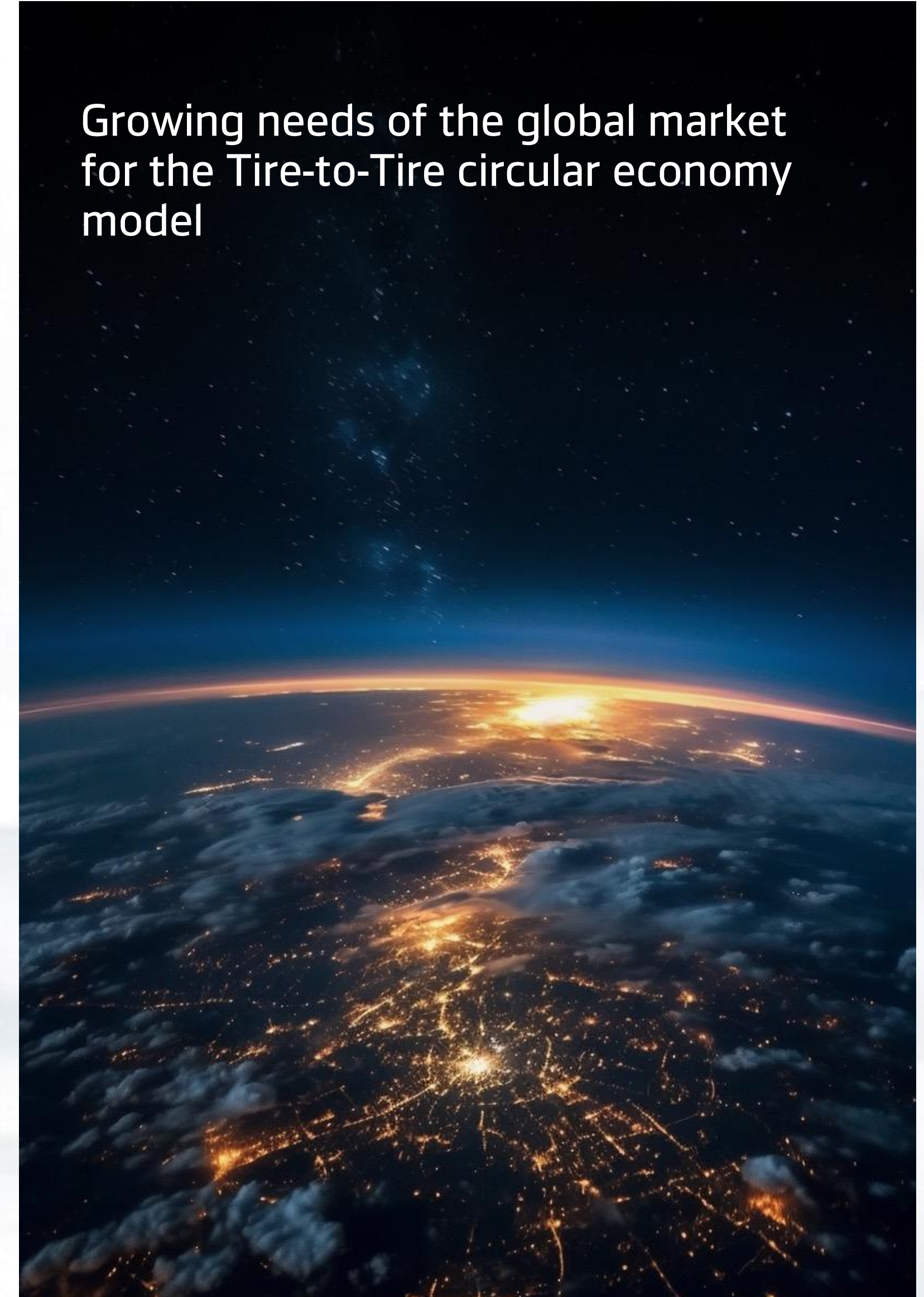
EU environmental regulations associated with the tire industry Are expected to be enacted and strengthened (e.g. ESPR<sup>1)</sup>)



Requirement for using sustainable materials increase from the global OE makers



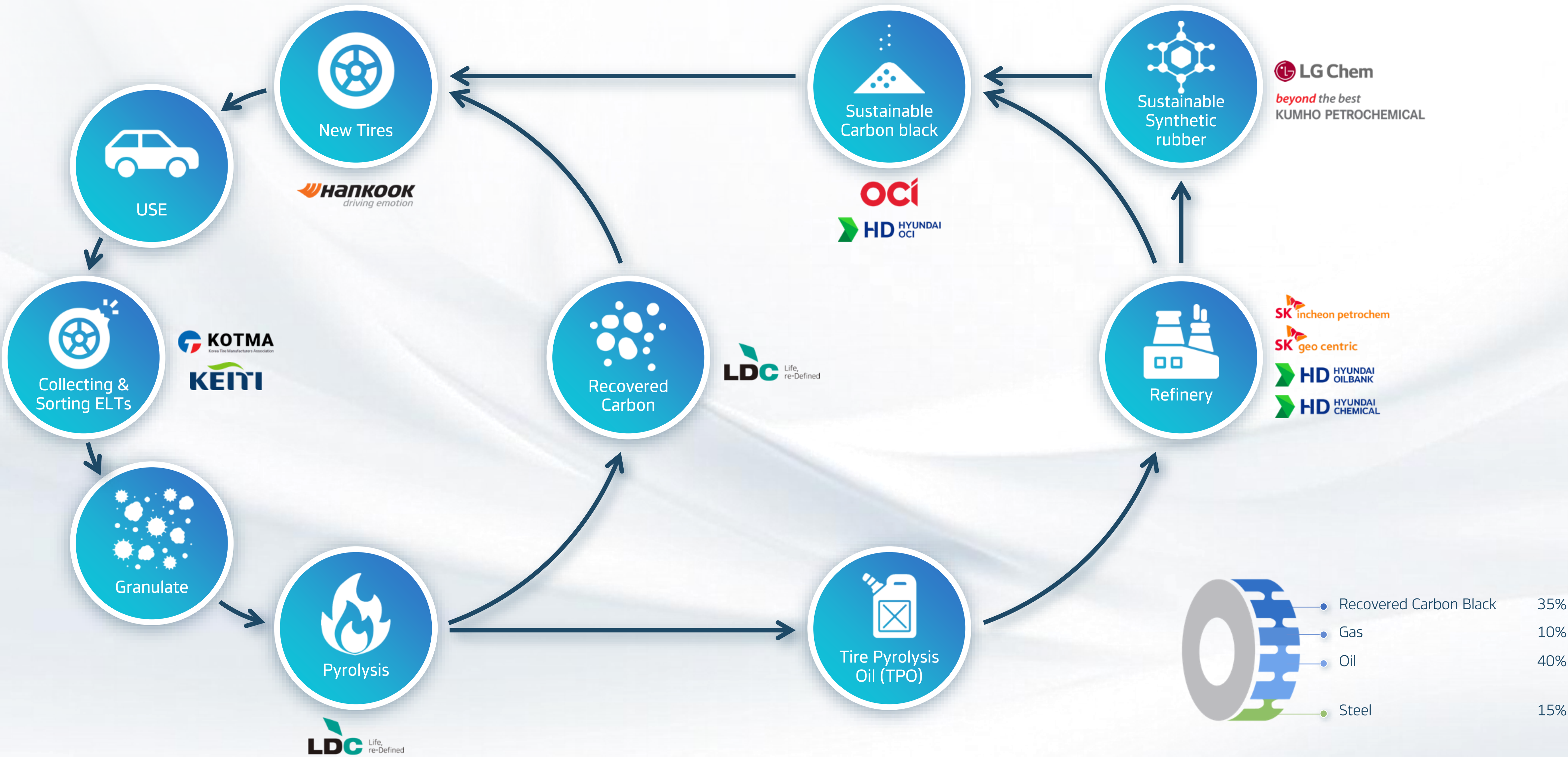
Growing needs of the global market for the Tire-to-Tire circular economy model



1) ESPR: Ecodesign for Sustainable Products Regulation



# Scheme of the Tire-to-Tire Project





01

Proving the possibility of technical, environmental, and economic execution of the circular economy model

02

Contributing to the reduction of CO2 due to the reduction in fossil resource consumption

03

Preventing depletion of natural resources, and preserving ecological diversity by switching energy recovery to material recovery

04

Creating new jobs and securing advanced researchers by fostering high-value businesses



## Hankook Tire hosts the 'Tire-to-Tire Circular Economy Model' consortium kick-off

▲ 비즈니스코리아 기자 | © 2023.11.03 13:48



Initiated by Hankook Tire, the 'Tire-to-Tire Circular Economy Model' project aims to promote a circular economy of end-of-life tires in the industry sector by designing innovative upcycling processes for turning end-of-life tires into new tires. This project signifies industry commitment to meeting global demands for carbon neutrality and using more sustainable materials in the manufacturing process. Twelve companies and institutes including Hankook Tire, Korea Environmental Industry & Technology Institute, LD Carbon, Korea Institute of Footwear & Leather Technology, HD Hyundai Oilbank, HD Hyundai Chemical, HD Hyundai OCI, SK Incheon Petrochem, SK Geo Centric, LG Chem, Kumho Petrochemical and OCI will collaborate on the project with the goal of improving the industry's shift toward sustainability.

Ref. Businesskorea (<https://www.businesskorea.co.kr>)



04

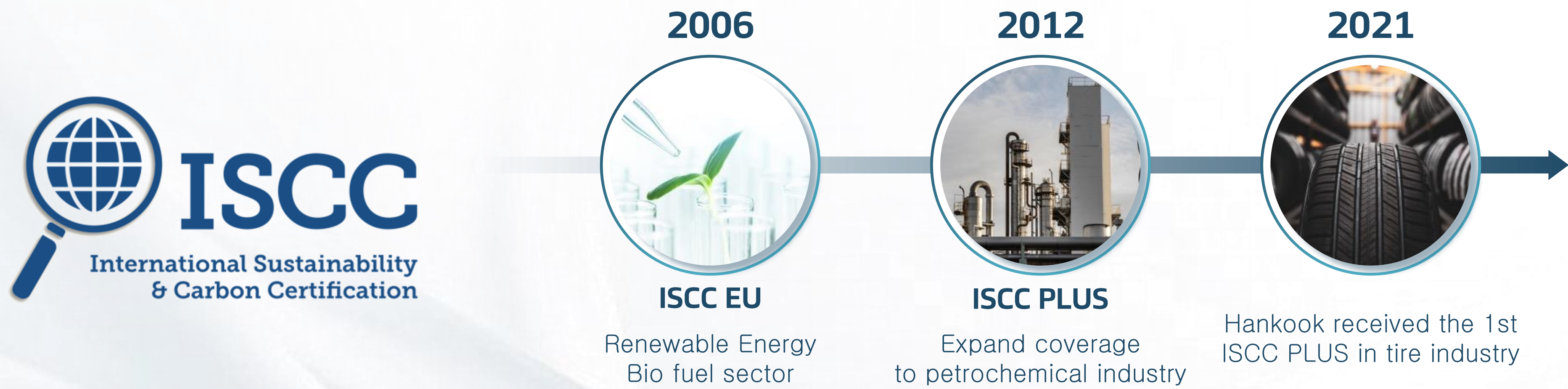
## ISCC PLUS Certification

The way to guarantee the sustainable materials used





What is ISCC (International Sustainable Carbon Certification) PLUS?



Transparency

Traceability

Global Official  
Certification

Practical  
Solution



# ISCC PLUS Certification



## Current Status for Global Certified Plant

- Certified Plant of Hankook Tire
- Certified Plant of Competitors

The First among  
the tire industry!



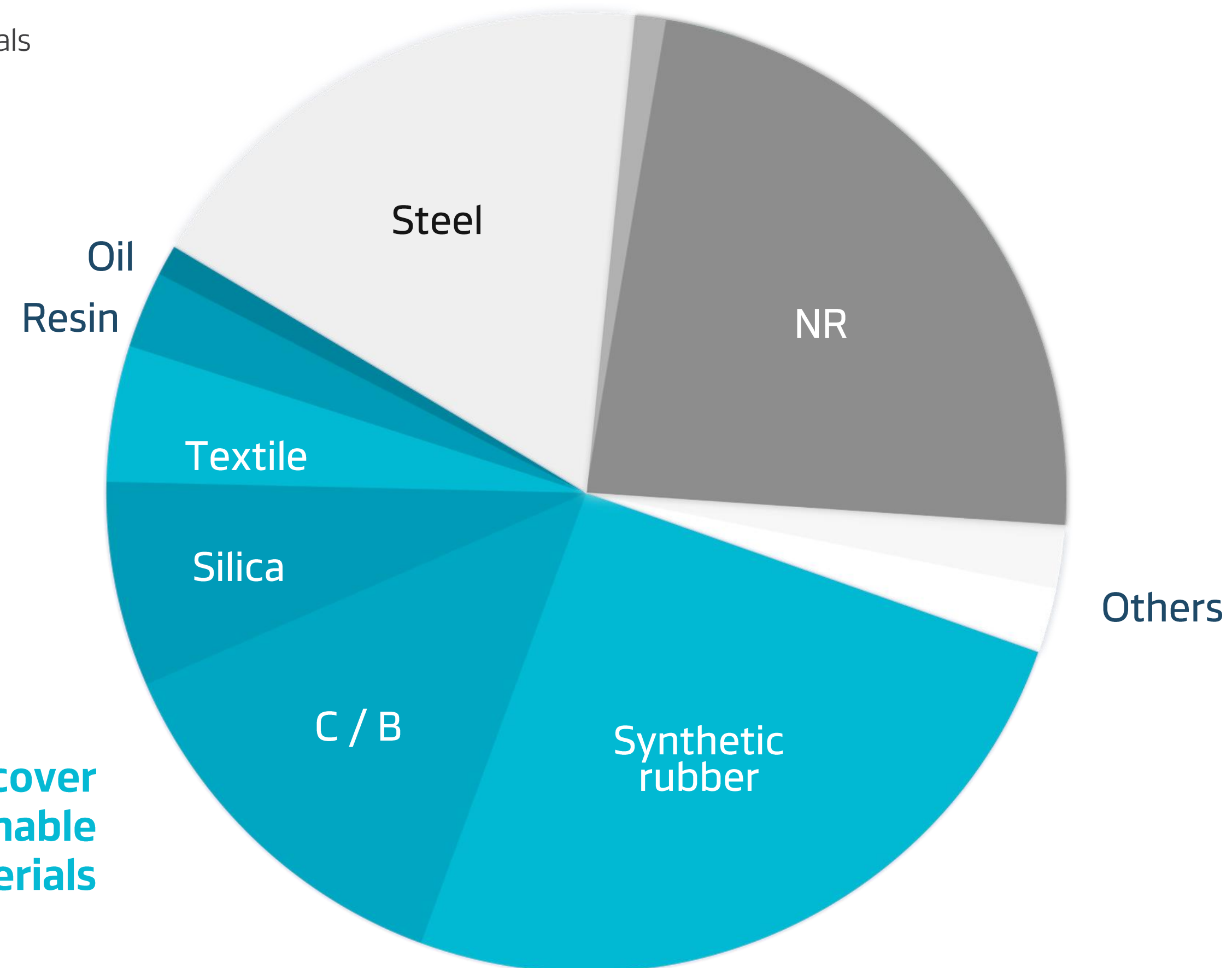


# Status of ISCC PLUS certification for Raw Materials



Tire Components (wt%)

■ ISCC PLUS certified sustainable materials



ISCC PLUS can cover  
more than 60% of sustainable  
raw materials



# Innovation for a Sustainable Future