CONFIDENTIAL

Circular Rubber Solutions

Circular Rubber Solutions - Revolutionizing the rubber and tire industry

June, 2024

Circular Rubber Solutions

Revolutionizing the rubber industry

We are revolutionizing tire sustainability – the CRs™ technology provides the first scalable option for decarbonization and circularity at cost parity with virgin material production – while solving the tire waste problem

Our proprietary CRs™ technology offers a groundbreaking approach to extract the value of recycled end-of-life tires. By turning ~85% of the total tire into cryogenic rubber powder and combining it with the CRs™ activator, we can replace >50% of virgin material in a tire, which is mostly fossil material

CRs™ improves tire performance, raise production efficiency, and requires no new CAPEX – extensive testing demonstrates 10-20% improved rolling resistance, 10%+ improved abrasion resistance, and 10-20% reduced curing time in manufacturing – using existing manufacturing equipment

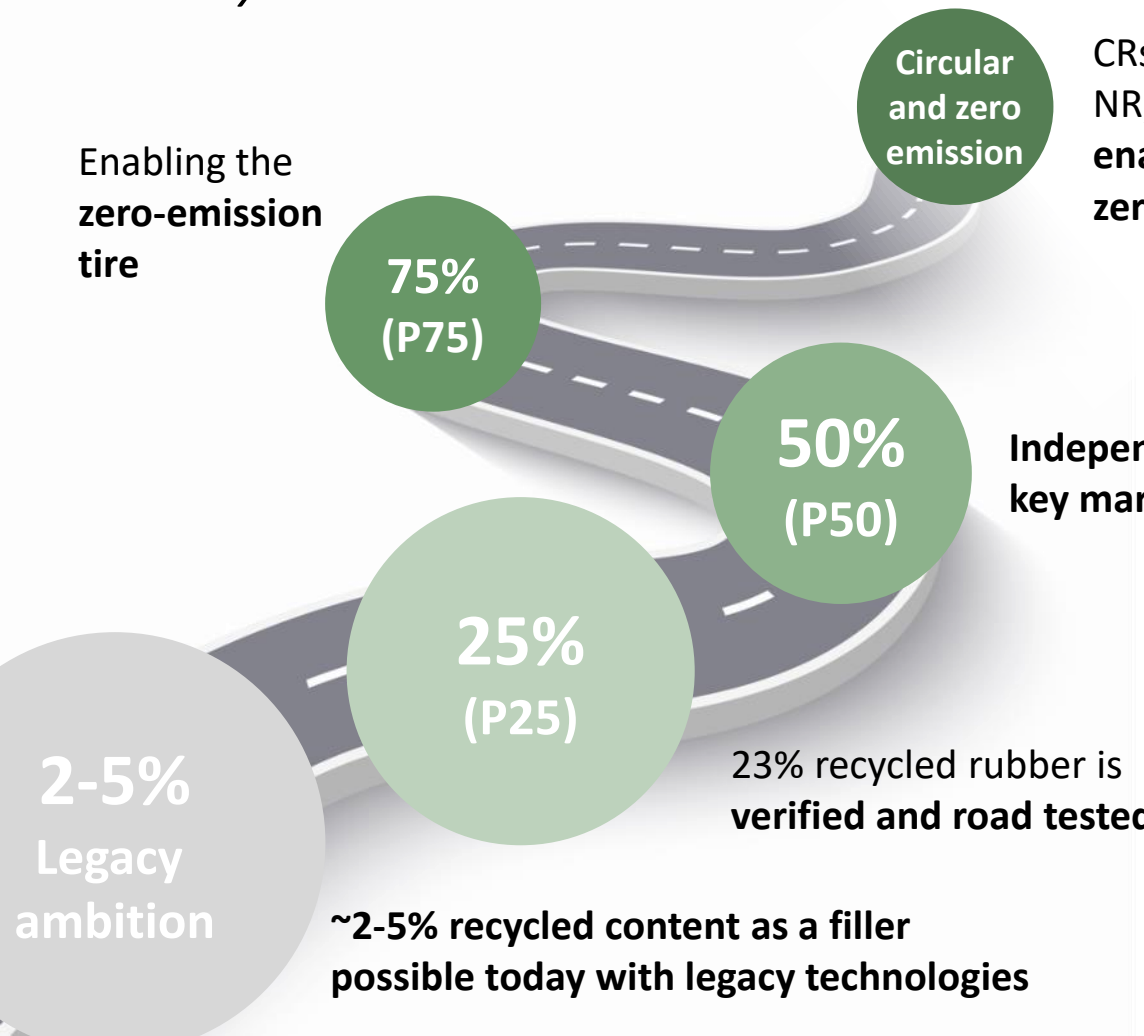
CRs™ is set for commercial scale-up in 2024 – after extensive independent road testing and testing by major tire manufacturers, the first product is commercially available today with a goal to offer a product that enables a fully circular and zero-emission tire by 2030

CRS

CRs™ – the road to the zero-emission and circular tire

Roadmap to the zero-emission and circular tire

%-recycled content



Enabling the **zero-emission tire**

CRs™ combined with NR, rCB, and sSBR **enables the circular and zero emission tire**

Independent lab tests with key market stakeholders

23% recycled rubber is **verified and road tested**

~2-5% recycled content as a filler possible today with legacy technologies

CRs™ is tested and commercially available

>1.5 Million km

commercial road testing

>25

ongoing customer trials, including key tire manufactures

3

plant tests ongoing

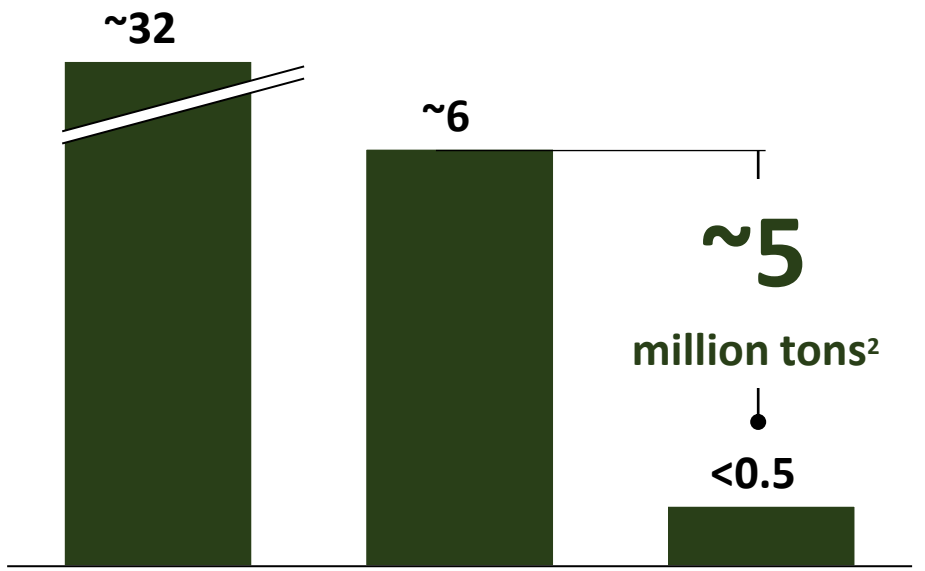
OEMs and tire manufacturers have ambitious targets – however <10% of sustainable tire material required to meet 2030 goals is available

Automotive and tire manufacturers are setting ambitious sustainability targets…

>95% **of top auto OEMs**
have SBTi targets, including scope 3 upstream emissions

>50% **of tire market**
committed to increasing sustainable materials share

Huge supply/demand gap vs. plan for sustainable tire materials by 2030, Mt



Total demand of rubber compound materials excl. natural rubbers and silica

Sustainable materials portion estimated based on announced targets[1]

Estimated supply of rCB and bio-butadiene usable for synthetic tire rubbers

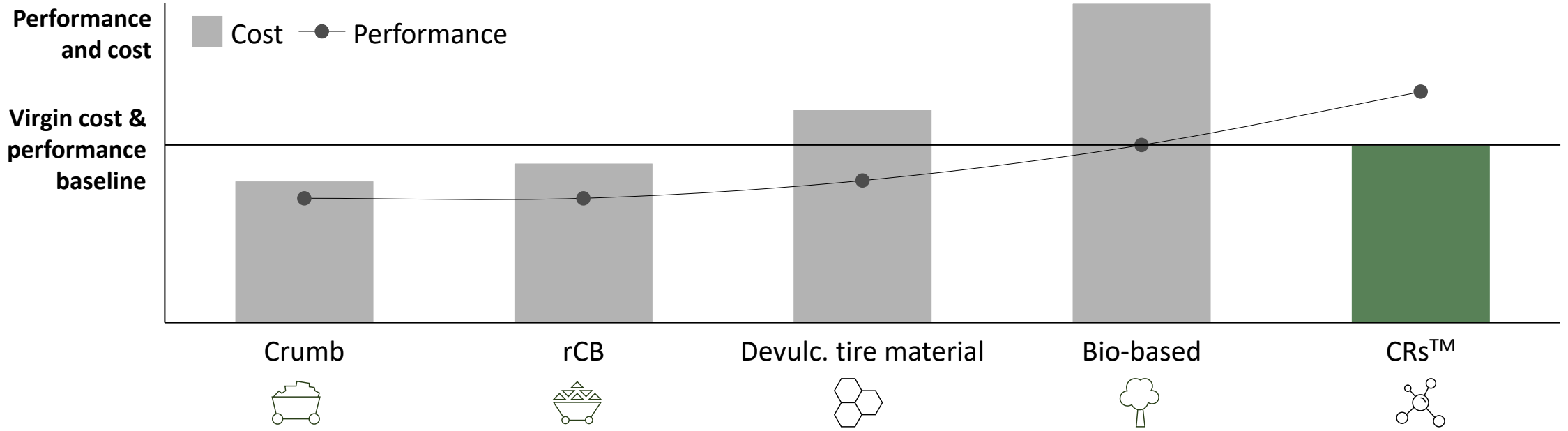
1. 1) Up to 3x cost increase vs virgin tire materials 2) ~5 MT supply gap of sustainable tire materials expected by 2030 Assuming 50% of tire manufacturers achieve 40% sustainable materials in synthetic rubber compounds by 2030. Actual demand may be higher as other tire manufacturers are likely to pursue some share of sustainable materials

CRS

Tire industry lacks solution to the tire waste problem and tire decarbonization – CRs™ is today the only solution allowing decarbonization and circularity at scale

No solution today to decarbonize and get circular at scale – except CRs™

Alternative decarbonization routes



	Crumb	rCB	Devulc. tire material	Bio-based	CRs™
Decarb. potential, %	***~2-5%***	***~15%***	***~5-7%***	***~40%***	***60-100%***
Circularity	●	◔	◑	○	●
Scalability	◔	◔	◔	◔	●

Source: Press search, CRs independent testing data

CRs™ provides a fully circular solution

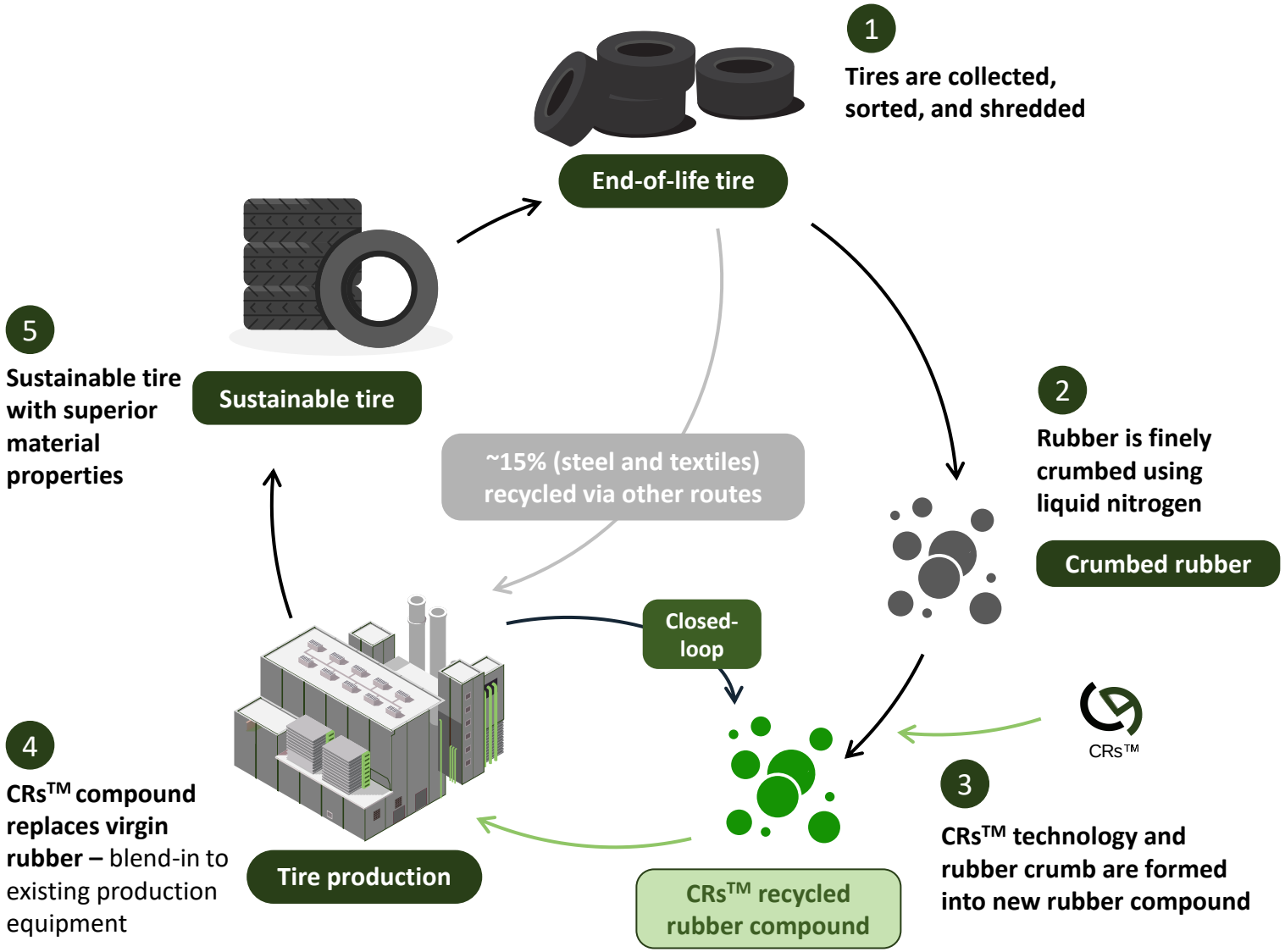
By reactivating cryogenic crumb CRs™ makes tires circular

CRs™ - enabler for circularity, sustainability, and performance

~85% Of materials in a tire possible to recycle by CRs™- addressing all rubber compounds

~10% Increased tire durability (abrasion resistance)

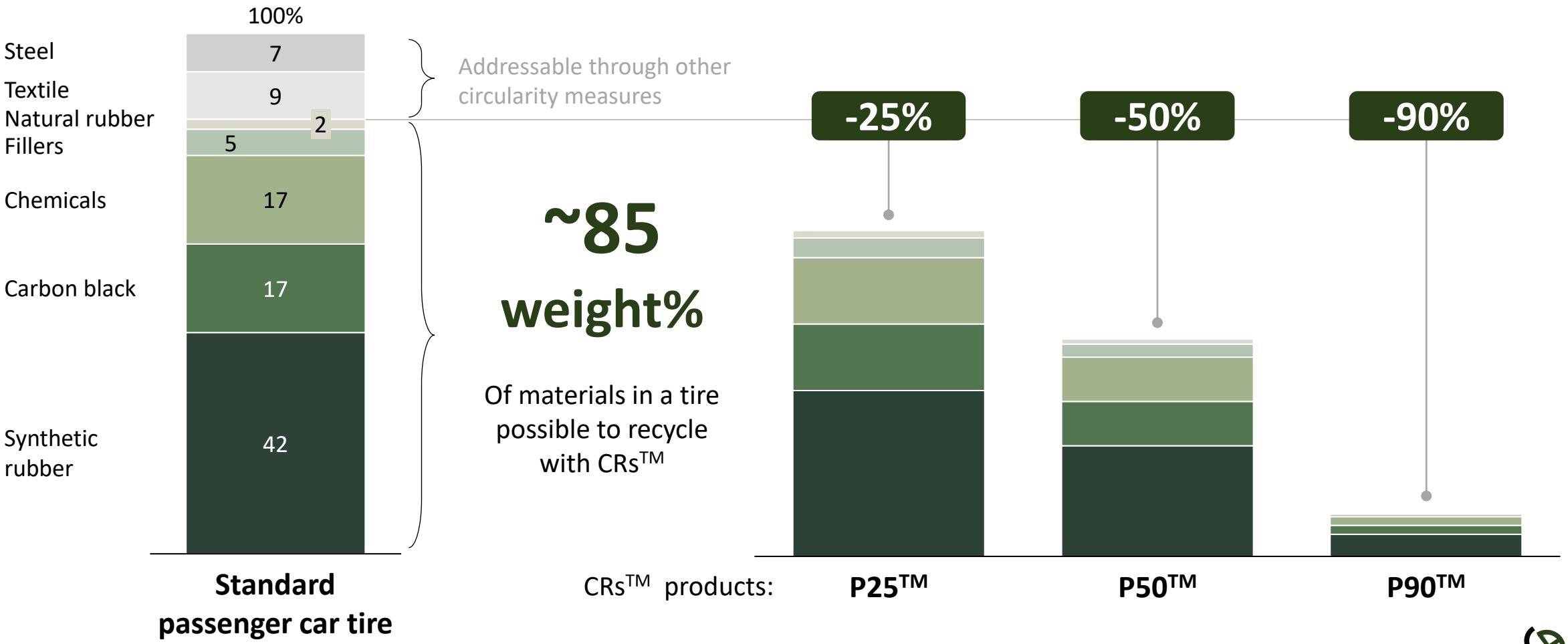
10-20% Reduced rolling resistance



CRs™ enables recycling of end-of-life tire at 50%+ levels, while reducing embodied carbon and improving performance

Significant CO2 reductions from CRs™ empowered cryogenic rubber powder

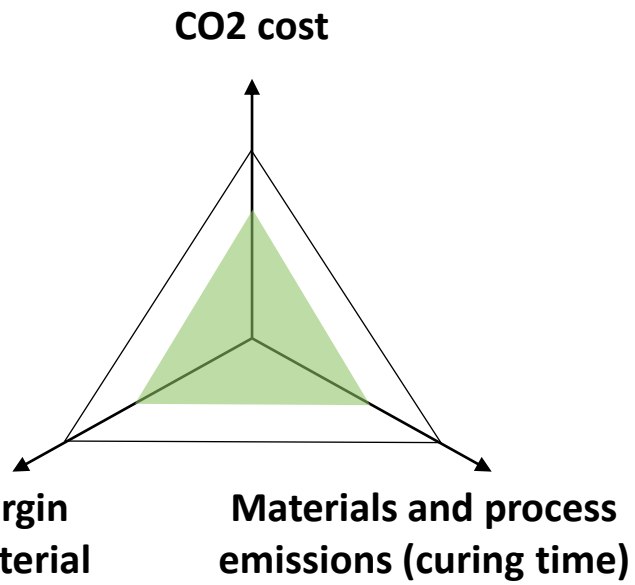
Emission per material, %



CRs™ offers value across sustainability, production, and product performance

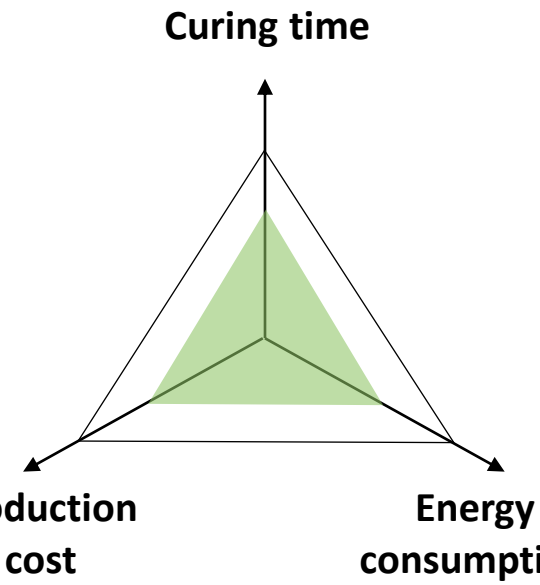
Virgin tire CRs™ tire

Circularity and decarbonization



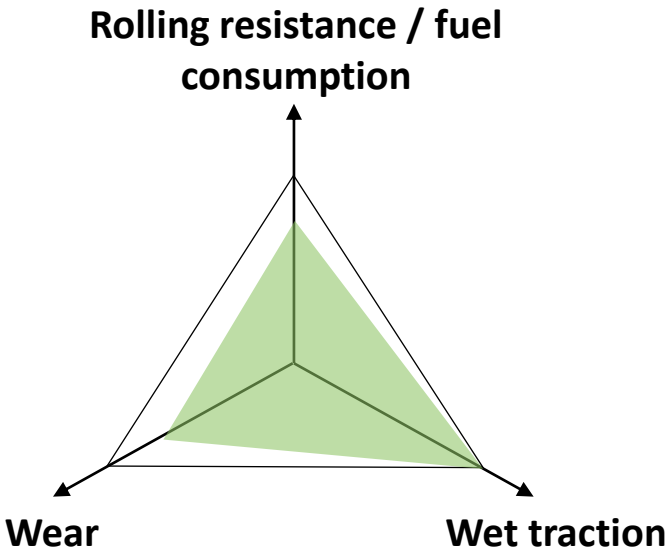
- Only available option to meet OEMs ambitious sustainability targets
- Only available option for full circularity at scale
- Lowest cost for decarbonization solution

Production efficiency



- Throughput increase from reduced curing time
- Allowing recycling of vulcanized scrap reduces production cost
- Energy baseline reduction from reduced curing time

Product performance



- Lower rolling resistance improves fuel efficiency
- Improved abrasion resistance and wear prolongs lifetime of tire
- Wet traction not affected by CRs™

Source: CRs independent lab testing data