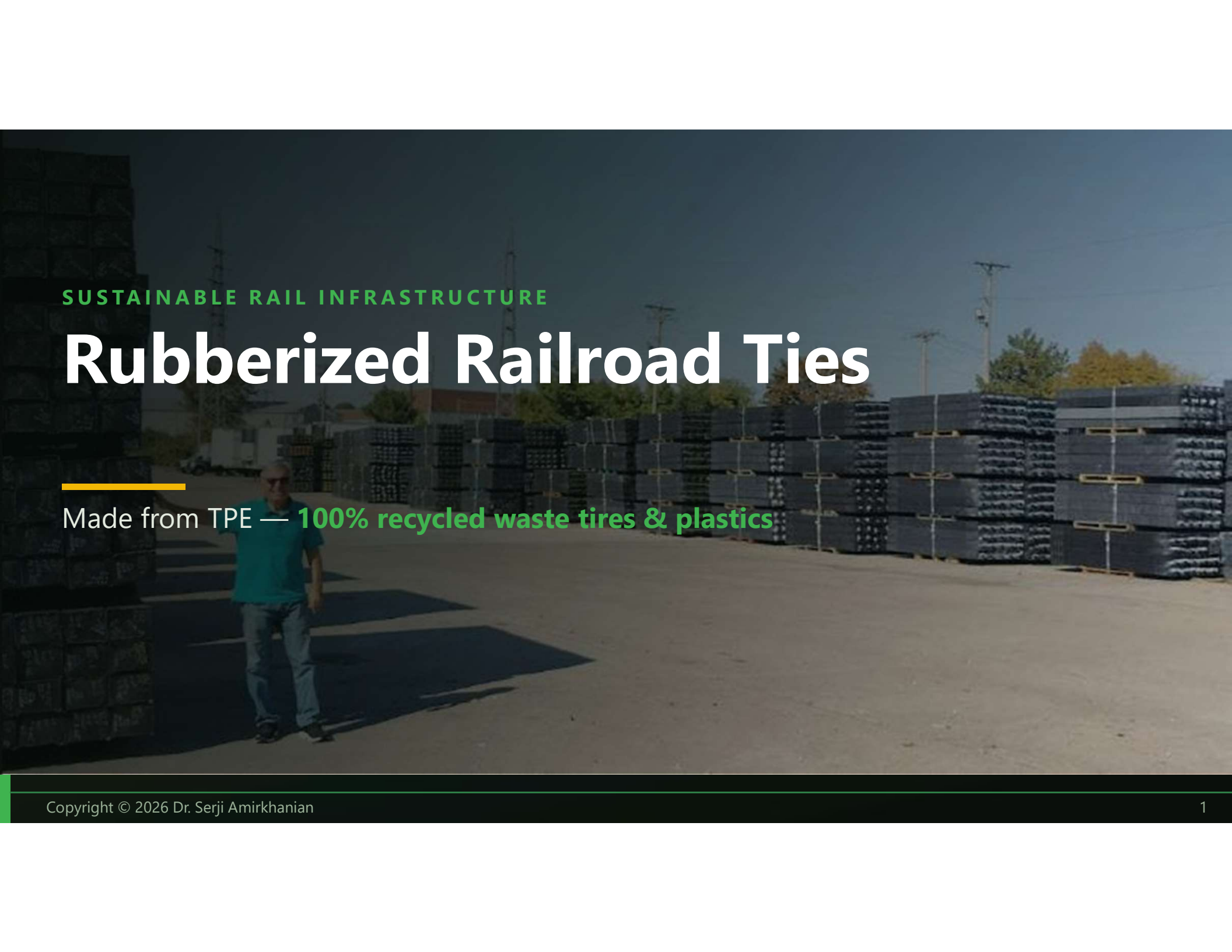




SUSTAINABLE RAIL INFRASTRUCTURE

Rubberized Railroad Ties

Made from TPE — 100% recycled waste tires & plastics

Extreme Weather: The Achilles' Heel of the National Rail Network

The U.S. rail network rests on an unsustainable foundation. Traditional wooden ties leave critical transportation corridors exposed to geography and extreme weather — **a national security risk, an operational vulnerability, and a bottomless pit of maintenance expense.**

700M

railroad ties installed nationwide

20M

must be replaced every single year

\$1.5B+

spent on replacement annually

Why Wood Fails Modern Rail

Three structural failures make treated wood unsustainable.



Short Lifespan, High Cost

Wooden ties rot and deteriorate, lasting only ~15 years. Ownership runs about \$10 per tie per year — wasting millions on a single 100-mile corridor.

Toxic to People & Water

Treated with creosote and chromated copper arsenate. These chemicals leach into soil and contaminate water sources in sensitive ecosystems.



End-of-Life Liability

Treated wood is not recyclable. Discarded ties are often burned, releasing carcinogens and drawing tightening regulatory scrutiny.

OUR SOLUTION

Future-Proof Infrastructure

A composite tie engineered to outlast, outperform, and out-value wood.

Materials Engineering & Composition



Finished composite ties in the yard — built entirely from recycled feedstock.

100% recycled in → 100% recyclable out

60–70% Recycled waste plastics

25–35% Shredded rubber (scrap tires)

5–15% Proprietary additives for cohesion & resistance

Performance & Return on Investment



Weather Immunity & Superior Stability

Ties do not absorb moisture or rot under flooding, and grip steel to resist thermal stress — drastically mitigating the risk of sun kinks in summer heat.



Reduced Maintenance, Continuous Transit

Sustained track stability enables faster train speeds, safely, and higher loads per rail car — all year round, with far fewer service interruptions.



Unsurpassed Economics (ROI)

Wood costs about **\$10 per tie / year**. Our technology cuts that to a maximum of **\$5 per tie / year**, with a guaranteed **50-year lifespan**.

THE PERFORMANCE

Superior Performance & Extreme Durability

Engineered to outlast wood by decades — in every climate.

Built to Endure — Everywhere, for Decades



Climate Immunity

Impervious to moisture, rot, and thermal expansion. No sun kinks in extreme heat, no cracking in deep freeze — identical performance from desert to tundra.



Safety & Stability

Superior lateral resistance and gauge retention lock track geometry in place, supporting higher speeds and heavier axle loads with confidence.



Extended Lifespan

A guaranteed 50-year service life — more than 3× wood — slashing track possessions, replacement cycles, and total lifecycle cost.

The Impact at Scale

Every **1,000 km** of new track built with composite ties delivers:

2M

composite ties
produced

240k t

CO₂e emissions
avoided

5M

trees saved

**150M
kg**

recycled plastic
diverted

6M+

scrap tires repurposed

Turning waste streams into permanent, future-proof infrastructure.

CLOSED LOOP • CIRCULAR ECONOMY • THE POSSIBILITIES

Thank You

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