

**P****R****R****I****S****M**

**W** **O** **R** **L** **D** **W** **I** **D** **E**

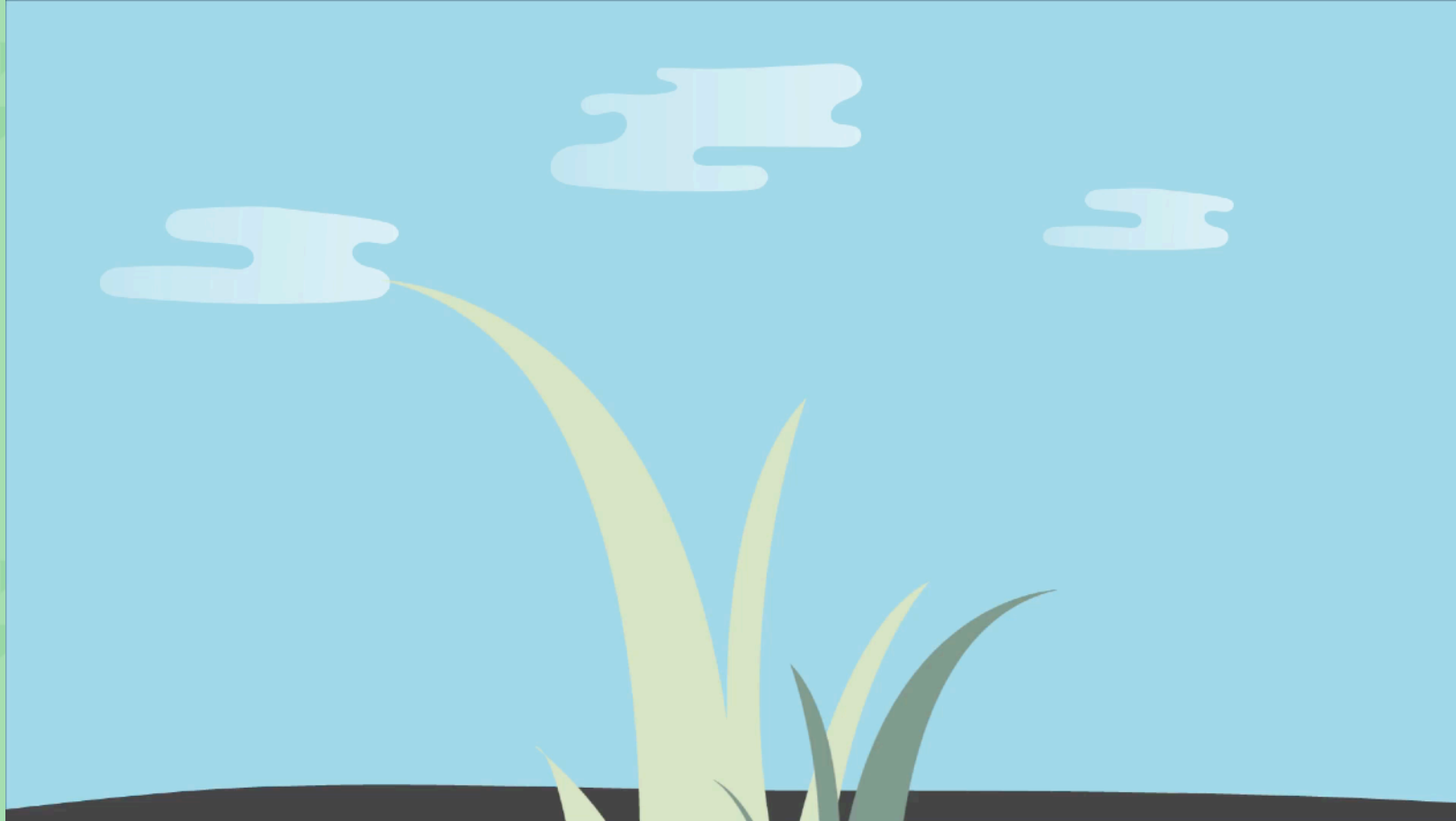
A photograph of a road winding through a forest. The road is paved and has a dashed yellow center line. The trees on either side are dense and have some autumn-colored leaves. In the foreground, the top of a large, dark, textured tire is visible, suggesting the viewer is looking out from a vehicle. The sky is bright and hazy, indicating a sunny day.

**THE BEGINNING  
OF THE END  
OF END OF LIFE TIRES**

**1.3 BILLION TIRES  
ARE DISCARDED EVERY YEAR GLOBALLY**



What if...





**"EVERY ATOM COUNTS"**



**CREATING  
ELASTOMERS  
FROM TIRES**

# Now that the mix is moving again what's next?



## PRISM™ Thermoplastic Rubber

|   |  |
|---|--|
| <b>ZERO HEAT</b><br>used in the process   | <b>100%</b><br>polymers preserved              |
| <b>1ST</b><br>to convert<br>thermoset rubber into<br>thermoplastic rubber                                   | <b>SAVES</b><br>the carbon black<br>in the ELT |
| <b>SUSTAINABLE</b><br>innovation<br>leading the asphalt<br>industry to<br>become even more<br>consequential | <b>7 PATENTS</b><br>pending                    |



## PRISM™ Enhanced Asphalt Rubber

|   |   |
|---|---|
| <b>ASPHALT BINDER+PTR™ = PEAR™</b><br>Providing industries with innovative, sustainable<br>enhanced asphalt |   |
| <b>STABLE</b><br>pricing  | <b>PRESERVES</b><br>valuable components<br>in the ELT |
| <b>UNBROKEN</b><br>crosslinks   | <b>OXIDATION</b><br>resistant                         |
| <b>MOLECULAR EFFECT</b><br>interfuses with asphalt at an atomic level                                       |   |



# PTR™ MAKES ASPHALT LAST LONGER

Testing has shown that binder infused with PTR™ degrades more slowly when testing via Pressure Aging Vessels (PAV)

Longer lasting binder = longer lasting roads

Why? Carbon black from the tires protects the binder from UV degradation.

416364 miles of road with IRI of >95  
57% of roads in the US are in less than good  
condition  
**SEVEN OUT OF EVERY 100 MILES OF ROADWAY  
NATIONWIDE ARE IN POOR CONDITION\*\***

Source: Bureau of Transportation Statistics

**MORE DURABLE  
ROADS = LESS  
FAILURES**

Hot Mix Asphalt roads built with **PEAR™** will last longer and be more durable than existing asphalt roads.

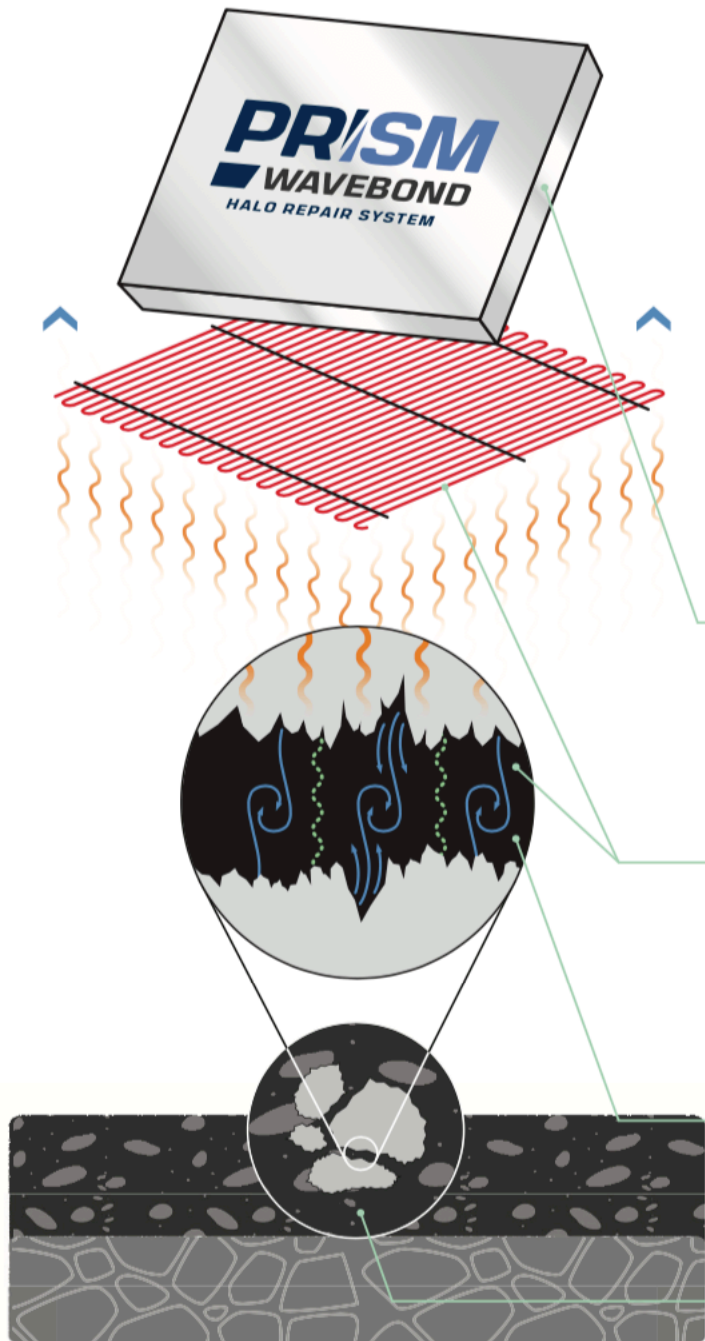
**ROADS THAT  
REDUCE CARBON  
EMISSIONS**

**PEAR™** roads will have reduced running resistance and be smoother - which equals less fuel wasted and reduced carbon footprints.

**NO FUMES  
OR ODORS**

Use of **PTR™** and **PEAR™** means that agencies can use Rubber in roads without complaints from their constituents or AQMD Boards.





## WAVEBOND™ HALO™ Repair System Fast, Green, Permanent.

WaveBond™ HALO™ Flat Panels are attached to a portable platform so crews can quickly move to trouble spots and efficiently perform repairs. This high-speed process, in conjunction with our PEAR™ ready mix repair material is fast, green and effective for permanent pavement repairs.

### CONFIGURABLE FLAT PANELS

WaveBond™ panels incorporate HALO™ Pulse-Wave electronics to create phononic waves that heat the pavement below the panels to a depth of 2" in 4-8 minutes. The system is run with the latest clean energy using a 480V 3-Phase Tier 4 AC generator.

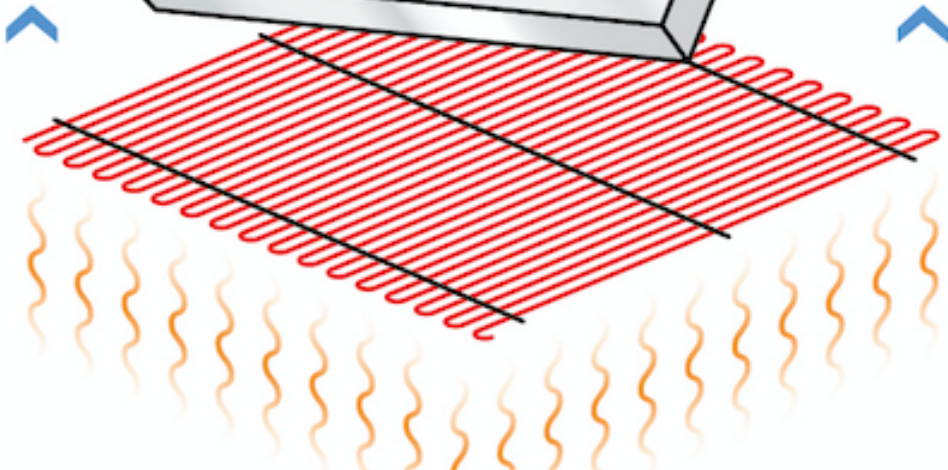
### NO OPEN FLAMES

Much like heating coffee in a microwave, you don't heat the cup you heat the contents. HALO™ Pulse-Waves heat only the binder around the aggregate into a liquid form that flows. It can then be re-bonded with new materials.

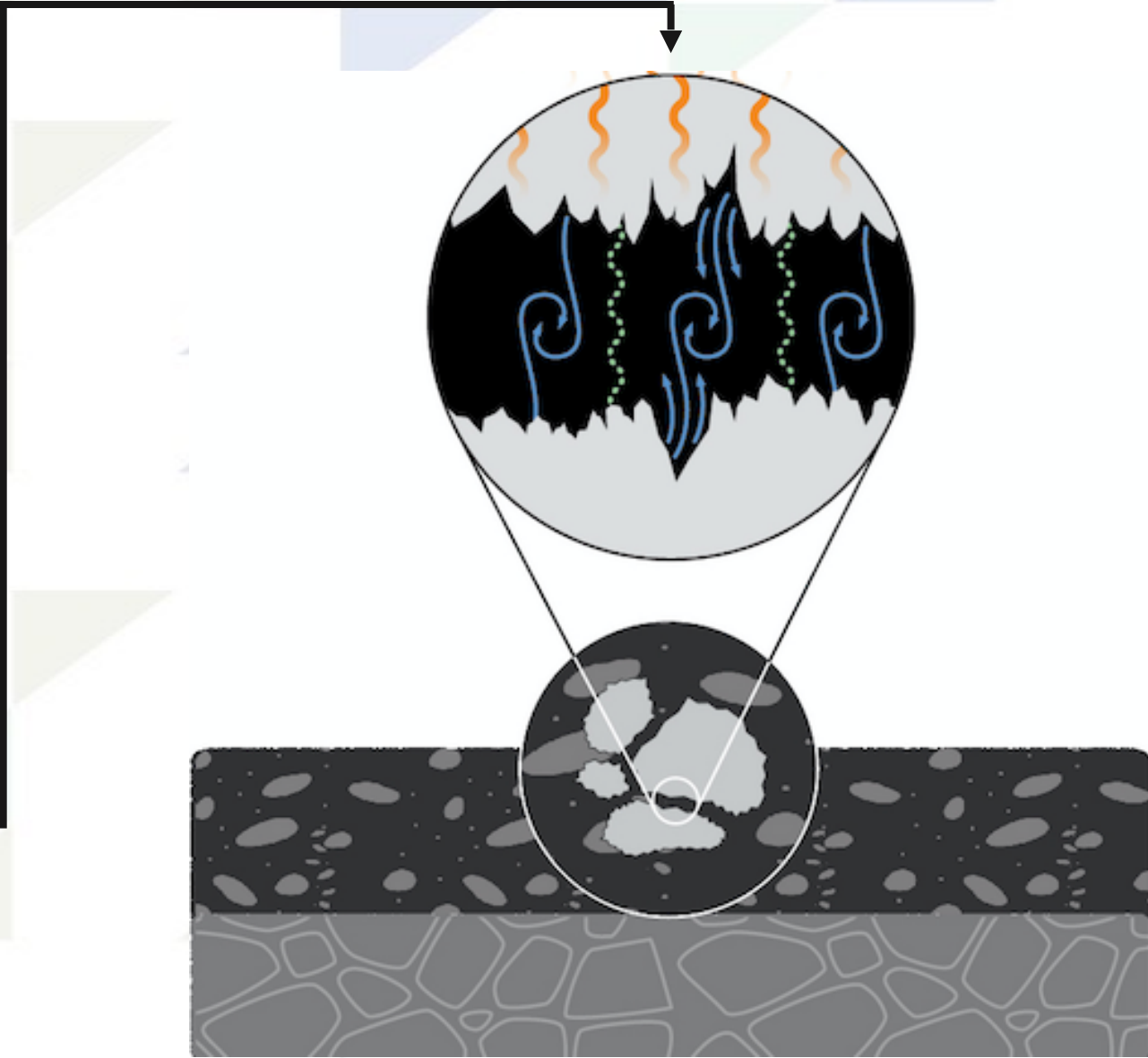
### JUST ADD PEAR™

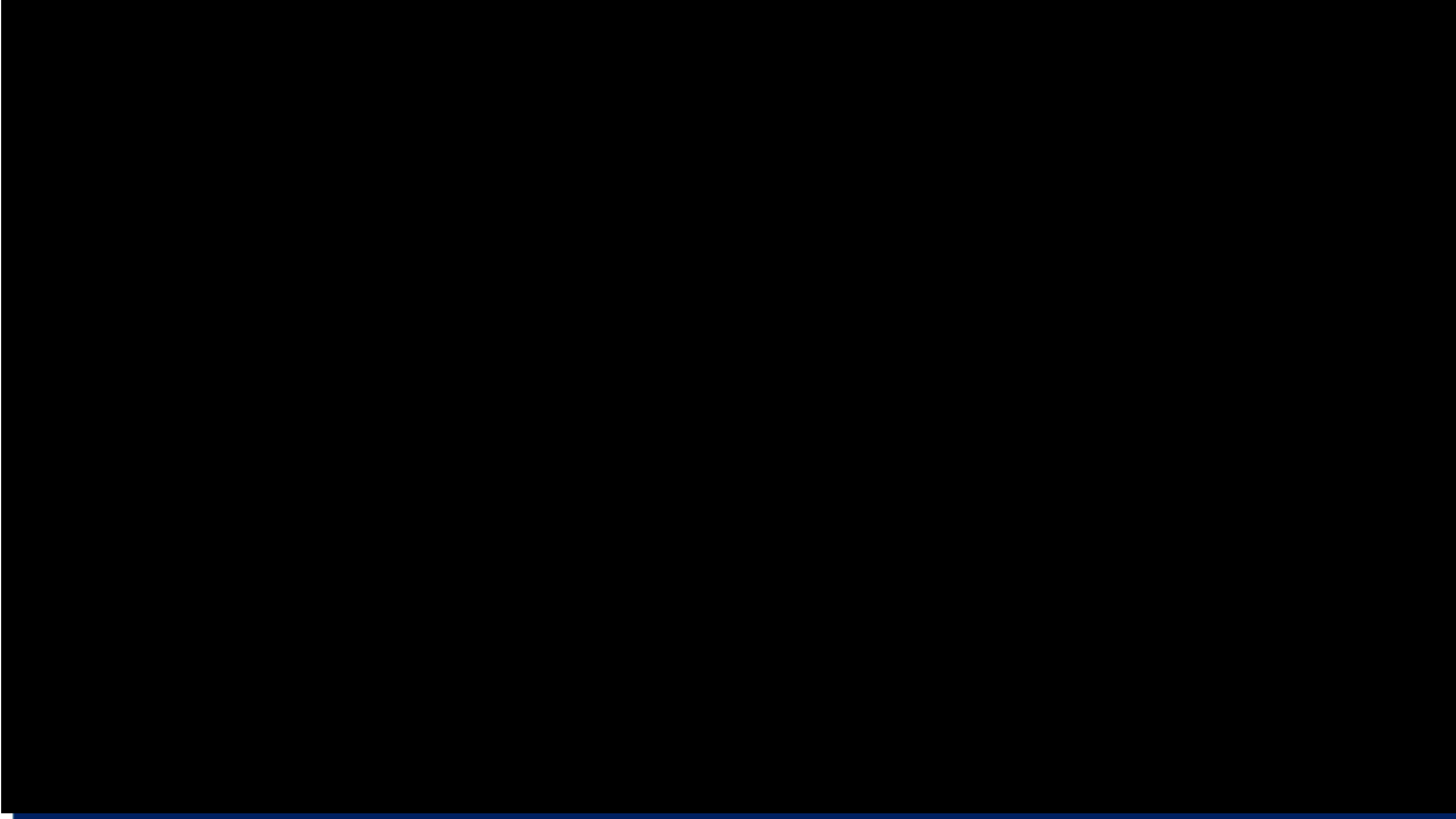
Adding PEAR™ ready mix material to the liquid binder strengthens and enhances the existing pavement materials. PEAR™, when mixed with the original binder, creates a sulfidic bonding of the non-oxidized binder material. And just like that, you have our PTR™ recycled materials seamlessly blended into any pavement repair.

### STRONGER, MORE DURABLE ASPHALT



**GREEN  
ENERGY**





**THE FIRST  
FULLY CROSSLINKABLE  
THERMOPLASTIC RUBBER,  
ENHANCED ASPHALT RUBBER**



**ELT**  
END-OF-LIFE TIRE

CRUMB RUBBER

**PTR™**  
PRISM™ THERMOPLASTIC RUBBER

ASPHALT BINDER

**PEAR™**  
PRISM™ ENHANCED ASPHALT RUBBER

A wide-angle landscape photograph featuring a dark asphalt road in the foreground. A dark metal guardrail runs horizontally across the middle ground, separating the road from a calm body of water. The water perfectly reflects the sky and the distant mountains. The sky is a vibrant blue, filled with large, white, fluffy clouds. In the far distance, a range of mountains is visible, with some peaks appearing to have a light dusting of snow or a similar light-colored material. The overall scene is bright and clear, suggesting a sunny day.

**ROADS ARE JUST THE BEGINNING**



# RESULTS

Lancaster, California

Heavy bus route  
Highly Oxidized





9/24/16 (1 yr later)



10/18/19 4 yrs later



**MORE TO COME NEXT YEAR IN PORTLAND...**

**FOR MORE INFORMATION:  
SCOTT DMYTROW**