

What if we could convert single-use waste into long-term infrastructure performance?



When Two Challenges Converge, An Opportunity Emerges

CHALLENGE 1

Reduce Plastic Waste

14%

 311 million tons of plastic are produced annually worldwide.¹

Only 14% is collected for recycling.¹

Melting is the most common recycling process, but it degrades the plastic with each sequence. After 10 lifetimes, the material is no longer useful.



86% of plastic is lost, landfilled, or incinerated.



Chemical Recycling

Alternatively, a chemical process can use difficult-to-recycle PET from post-consumer and some post-industrial streams. In a **depolymerization process**, thermoplastic polymers are rebuilt on a molecular level, producing a stronger material. This ingredient is used to create NEO.


CHALLENGE 2

Rebuild Road & Highway Infrastructure

20%

20% of the 4.18 million miles of US roads are in poor condition.²

California has 51,000 state highway miles and 335,000 local street miles, with 6% in poor condition.³

 Traditional road reconstruction mills off the top several inches of distressed pavement and lays new asphalt in its place.

This produces 42 truckloads per lane mile of waste asphalt, and requires 42 truckloads of new asphalt with virgin aggregate.

Cold-In-Place Recycling

Cold-in-place recycling reuses 100% of the existing roadway in-place, at ambient temperatures, eliminating the need for virgin aggregate and the environmental and structural damage from unnecessary hauling.

The Opportunity:

NEO recycles 100% of an existing roadway in-place, creating a completely new category of plastic pavement.

- Lasts 2 - 3X longer than traditional asphalt
- 5X tensile strength & greater flexibility than asphalt
- Avoid distresses like rutting and reflective cracking
- Deliver at least 50% life cycle savings to taxpayers



Upcycle plastic waste to build the safest, most sustainable pavement on the planet.

- Recycles 150,000 plastic bottles per lane mile
- 90% reduction in greenhouse gas emissions
- 6X reduction in energy requirements
- Zero use of virgin aggregate
- Zero leaching or negative impact on water, air, or soils, with no creation of microplastics

¹ EPA Plastics: Material-Specific Data - <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/plastics-material-specific-data>

² ASCE Infrastructure Report Card - <https://www.infrastructurereportcard.org/cat-item/roads>

³ LAO California Transportation System Report - <https://lao.ca.gov/Publications/Report/3860>