



Wheels: Are cars the most recycled product in America?

In addition to wowing the public with their newest products and concept cars, the U.S. automakers did their fair share of self-promotion on the environmental/recycling front at this year's North American International Auto Show in mid-January.

One of the most surprising messages touted? Cars are the most recycled product in America.

That's the line put forward by the United States Council for Automotive Research LLC's (USCAR) Vehicle Recycling Partnership LLC (VRP) in its "Did you know?" exhibit. USCAR is the umbrella organization for collaborative research among Chrysler, Ford, and General Motors.

Based on 16 years of collaborative efforts to increase the recyclability of automobiles and reduce their impact on the environment, the exhibit wondered aloud to anyone who would listen:

Did you know that in the United States ...

- End-of-life vehicles are the most recycled consumer product — both in terms of percentage and volume?
- More than 95% of all end-of-life vehicles go through a market-driven recycling infrastructure with no added costs or taxes to consumers — and more than 84%, by weight, of each end-of-life vehicle is recycled?
- Materials processed from end-of-life vehicles go back into making new cars, roads, buildings, consumer products, and even garden mulch?



The Vehicle Recycling Partnership, in collaboration with Argonne National Laboratory, is working to recover more of the plastics from the vehicle recycling process. Sam Jody, an Argonne Project Manager, holds an automotive part made from recovered plastic. [Photo courtesy: Argonne]

"Most people don't know these statistics, and they're usually surprised when they find out that 95% of end-of-life vehicles in the U.S. go through some form of recycling process," said Claudia Duranceau, Ford senior research recycling engineer for Emissions Control and Recycling and VRP representative.

Today, more of the materials recovered from recycled vehicles are reused to make new cars. And beyond cars, materials recycled from cars are used to make other products including building materials and home products, such as carpet, resilient flooring, and patio furniture.

"That's the unique part about this exhibit; it shows how all these materials are reused," said Candace Wheeler, General Motors technical fellow and VRP representative. "People have no idea what happens to end-of-life vehicles. Most think they're sold off to Third World countries or just fall off the face of the Earth."

VRP achievements include developing material selection and design guidelines to optimize vehicle recyclability and partnering with the domestic vehicle dismantling industry to improve the safety and efficiency of vehicle disassembly and materials recovery. In 1994, the VRP opened the Vehicle Recycling Development Center, where more than 500 vehicles were dismantled to study the dismantling process and develop new ways to design vehicles that improve recyclability. The VRP also has created training programs on the safe handling of airbags and hybrid batteries in the recycling process.



After the parts that can be sold are removed at dismantlers from end-of-life vehicles, shredders are used to begin the process of separating and reclaiming materials for recycling. [Photo courtesy: Institute of Scrap Recycling Industries]

The VRP, Wheeler added, has steadily increased the amount of materials recovered during the vehicle recycling process, which now averages around 84% of the vehicle by weight. The group aims to continue narrowing that gap by developing new processes that further support the domestic automotive dismantling and material recycling industries. For example, the VRP has partnered with public sector research institutions and private entities to optimize the parts recycling processes at dismantlers across the country and continues to improve the materials reclamation process when leftover hulks are shredded. That shredding process reclaims metal materials from roughly 12 to 15 million vehicles — yielding between 15 and 19 million tons of recycled steel alone each year.

And recent advances jointly developed through the VRP are now enhancing processes to reclaim a higher percentage of the shredding process leftovers — more commonly known as shredder residue — which include plastics, glass, seat foams, carpet fibers, and rubber.

As part of a formal Collaborative Research and Development Agreement (CRADA), scientists from the U.S. Department of Energy's Argonne National Laboratory, the Plastics Division of the American Chemistry Council and the VRP, continue to lead the development of innovative processes to improve the quantity and quality of materials reclaimed from shredder residue.

"Helping the recycling industry better understand the economics of recycling and setting goals and processes to commercialize the collecting and recycling of non-metallic materials have been an important focus in recent years to close that remaining 16% gap of what is recycled and what is not," said Nakia Simon, Chrysler product engineer and VRP representative.

Source: USCAR

© Nelson Publishing, Inc. All Rights Reserved