USCAR Vehicle Recycling Partnership Works to Optimally Recycle End-of-Life Vehicles

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While curbside recycling of one's car or truck will never likely be a common household practice, what happens to vehicles at the end of their useful lives has long been an active concern of U.S. automakers.

Gerald Winslow, DaimlerChrysler's Engineering Representative to the VRP, explains part of the recycling process to CRADA members

For many years DaimlerChrysler, Ford and General Motors have had a direct hand in guiding their vehicles into an increasingly recycled afterlife. Currently, 95 percent of all vehicles in the U.S. go through a market-driven recycling infrastructure. Over 75 percent, by weight, of each end of life vehicle (ELV) in the United States is recycled, and the United States Council for Automotive Research (USCAR) Vehicle Recycling Partnership (VRP) hopes to raise that percentage to as close to 100 percent as possible.

USCAR's VRP was formed by U.S. automakers – DaimlerChrysler, Ford Motor Company and General Motors Corporation – in 1991, one year prior to the formation of USCAR, which is designed to further strengthen the technology base of the domestic auto industry through cooperative research. The VRP collaborates with government agencies and industry to review the current vehicle recycling infrastructure as well as to develop and implement new technologies.

In September, the USCAR VRP met to review the progress made to date on its Cooperative Research and Development Agreement (CRADA) with the American Plastics Council and U.S. Department of Energy's Argonne National Laboratory and to discuss updates and implementation of its existing Roadmap to 2015.

Designed to enable optimum recycling of all automotive materials, the five-year, cost-shared CRADA represents a multimillion dollar effort that addresses the sustainable recycling of current and future materials from end-of-life vehicles. It is the third CRADA established among the participants since the VRP's inception.

Polypropylene/Polyethylene recovered from shredder residue at the pilot recycling facility

“We are pleased with the progress the CRADA has made in developing technologies to recycle shredder residue,” said Claudia Duranceau, Ford's Engineering Representative to the VRP. “We continue to discover and support research that is focused on economically sound recovery solutions that benefit the environment and in some cases, feed back into the auto industry, without extra cost burdens to consumers.”

The CRADA is working on a number of projects that will allow the recovery of materials, such as plastics, from shredder residue, to convert this material into other valuable products. In addition, the VRP has a task force dedicated solely to eliminating substances of concern (SOC) found in shredder residue.

“The VRP SOC task force is making strides in the development of products that are free of SOCs as well as working on ways to remove the SOCs from shredder residue that originates in non-automotive products,” said Candace Wheeler, General Motors’ Engineering Representative to the VRP.

USCAR’s VRP is also working to anticipate and meet the recycling needs for components and parts in future and emerging vehicles such as hybrids and fuel cell vehicles.

Shredder residue feeding section of the mechanical separation plant at the CRADA-funded pilot recycling facility at Argonne National Laboratory

“We’re coming up with viable solutions today for all vehicles, no matter what age or content, and we’re also focused on the vehicles of tomorrow,” said Gerald Winslow, DaimlerChrysler’s Engineering Representative to the VRP. “We want to enhance the recycling infrastructure so it can handle whatever comes its way.”