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Develop a Web-Based Information System

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DOE Vehicle Technologies Program

Annual Merit Review

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"This presentation does not contain any proprietary or confidential information"

Purpose of Work

- Develop a web-based information system to communicate the latest developments in automotive recycling technology to key stakeholders

- An outreach tool to encourage dialogue with stakeholders and other researchers working on automotive recycling

Previous Review Comments

- None

Barriers

- Copyright transfer agreements restrict certain articles from being displayed on the website – Example SAE papers

Approach

- Develop a user-friendly website that communicates the latest worldwide developments in automotive recycling technology, including progress achieved by the CRADA team, to stakeholders

- Review of literature

Accomplishments

- Website has been launched
  http://www.es.anl.gov/Energy_Systems/CRADA_Team_Link/Index.html
- Website is updated as more information becomes available
- Information on the website includes:
  - Overview of CRADA Team activities and publications including progress reports and brochures
  - Recycle bibliography
  - Technology review document
  - Related news and media events
  - Links to related sites

Website at a Glance

Division Site - Windows Internet Explorer

http://www.es.anl.gov/Energy_systems/CRADA_Team_Link/Index.html

Division Site

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Energy Systems Division

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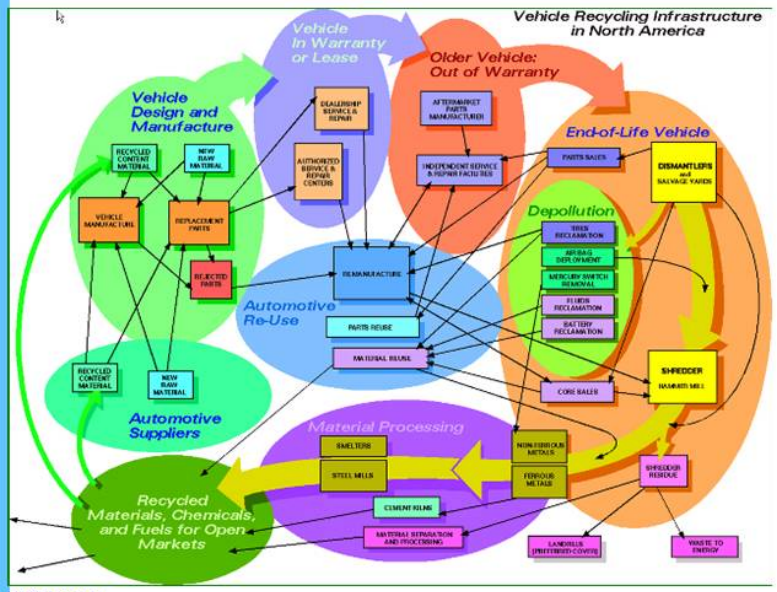
Publications
Useful Links

U.S. End-of-Life Vehicle Recycling CRADA Team

CRADA Overview

To achieve greater fuel-efficiency and safety, today's cars incorporate an increasing share of innovative lightweighting materials. While these materials greatly enhance efficiency during vehicle use, they can present special challenges to recycling.



Hi-Rez image

Today, more than 95 percent of all vehicles in the United States go through a market-driven recycling infrastructure, with no added cost or tax to consumers. More than 75 percent, by weight, of each end of life vehicle (ELV) is recycled, and the U.S. ELV CRADA Team is working to raise that percentage to as close to 100 percent as conceivably possible.

The CRADA partners are USCAR's Vehicle Recycling Partnership, which represents DaimlerChrysler Corporation, Ford Motor Company and General Motors Corporation; Argonne National Laboratory; and the American Plastics Council.

For more information

US ELV CRADA Team in the News

- *Expanding Automotive Recycling to Include Plastics* Technology News (3/22/2006)
- *Here Today, Gone Tomorrow: The Auto Industry Ratchets Up Recycling*, E/The Environment Magazine
- *Recycling: Auto Industry's New Frontier?* TheCarConnection.com (12/05/2005)
- *USCAR Says It's Making Progress* Trailer Life Magazine (11/28/2005)
- *Recycling Rules* Fairfield County Weekly (11/24/2005)
- *USCAR VRP Drives Toward Increasing Recyclability* Recycling Today (11/14/2005)
- *US Vehicle Recycling Effort* netcomposites.com (09/12/2005)

US ELV CRADA Team Press Releases

- *USCAR Vehicle Recycling Partnership Works to Optimally Recycle End-of-Life Vehicles, Nov 1, 2005*
- *U.S. Automakers, Argonne Lab and American Plastics Council Lead vehicle Recycling Effort*
- *Recycling automotive plastics is profitable and good for the environment*
- *Argonne, industry tackle end-of-life vehicle recycling*

Learn more about the US ELV CRADA

- **CRADA Factsheet.pdf**
- **CRADA Brochure.pdf**

Documents Available on the Website

- 2005 Progress Report for Recycling ELVs of the Future
- Market Driven Technology Development for Sustainable End-of-Life Vehicle Recycling: A Perspective from the United States, presented at the 6th International Automobile Recycling Congress
- Industry and Government Collaboration to Facilitate End-of-Life Vehicle Recycling, presented at the 2005 ASME International Mechanical Engineering Congress & Exposition
- Recycle Bibliography
- End-of-Life Vehicle Recycling: The State of the Art of Resource Recovery from Shredder Residue

Recycle Bibliography

- An expandable PDF that provides abstracts and references to publications relevant to ELVs Recycling. The bibliography is organized by 15 topic areas and contains over 200 references-
  - Recycle Infrastructure
  - Design for Recycle
  - Legal and Regulatory Issues
  - Research Programs
  - Disassembly Technologies and Case Studies
  - Remanufacturing
  - Re-use of Automotive Parts and Subassemblies
  - Case Studies of Materials Recycled for Auto Applications
  - Substances of Concern
  - Mechanical Separation Technology
  - Thermo-chemical Conversion Technology
  - Energy Recovery Technology
  - Advanced Vehicles and Materials Recycle Technology
  - Life-Cycle Analysis
  - Other Technology

State of the Art Assessment

- Review document of technologies for recycling automotive materials
  - Summary
  - Introduction and Background
  - Recycling Infrastructure and Strategies
  - The Process of Recycling Durable Goods
  - Shredder Residue: Composition, Recyclable Materials
  - Technologies for Concentrating Recyclables from Shredder Residue
  - Combustion of Shredder Residue for Energy Recovery
  - Thermal Chemical Conversion Methods to Produce Fuels
  - Technologies for Separating Products from Shredder Residue
  - Chemical Processes for Recycling Shredder Residue
  - Substances of Concern in Shredder Residue
  - Recycling of Future Vehicles
  - Conclusions
  - References (170 References)

Plans for Next Fiscal Year

- Maintain and update the website as more information becomes available
- Track publications and add as appropriate
  - Add links to related developments such as field demonstrations
- Update review document and bibliography

Summary

- A valuable source of information on recycling automotive materials has been developed