

LITHIUM-ION BATTERY RECYCLING PRIZE



U.S. DEPARTMENT OF ENERGY

A Public Document



Team Name:	
Primary Submitter Name:	Jeff Schroder & Joanna Cohen
City and State:	Ft. Wright, KY
Member Names (including partners and affiliates):	Roger Schroder, Car-Part.com
Submission Title:	Reverse Logistics for Electric Vehicle Batteries in the Auto Industry
Submission Track:	Reverse Logistics

Concept

- The Auto Recycling Industry already has the infrastructure and technology needed to break down end-of-life vehicles into parts that are sorted, cataloged, stored, and eventually recycled.
- Auto Recyclers distribute parts from end-of-life vehicles for reuse, remanufacture, precious metal extraction or material recycling based on the characteristics of the part.
- Lithium-ion batteries are being left out of the existing circular economy.
- The challenge of the Auto Recycling Industry is to enhance infrastructure, technology and marketplaces to handle Lithium-Ion batteries.
- Auto Recyclers need help from strategic partners in order to accomplish this.

Approach

- Leverage existing infrastructure and technology for reuse circular economies, and make enhancements in the following areas.
- Auto Recyclers need complete fitment (interchange) data in order to sell these batteries back into reuse circular economies.
- Standardized data is needed with more information about batteries including chemical makeup, electrical output and hazardous waste at the serial number level.
- Update ARA standards, protocols and certifications to include electric vehicle batteries.
- Information Technology providers need to update systems to use new standards and new data.
- Market value of electric vehicle batteries needs to include their value in strategic national goals.

Potential Impact

- This solution only has the potential to affect battery recycling in the Transportation sector.
- With wide industry access to standardized serial number data, 90% of full service Auto Recyclers could be part of this solution.
- Car-Part.com can provide reporting on cataloging rates and marketplace efficiency through our historical parts database.
- Increased reuse of batteries reduces demand for new batteries and raw materials.
- Battery remanufacturing reduces demand for new batteries and raw materials.
- Connections with Battery Recyclers and OEMs interested in precious metal extraction reduces the demand for new mining capacity of raw materials.