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- **Energy Storage/Standby**
Lead-acid – The most efficient technology
- **Motive Power**
Lead-acid – The best overall solution
- **Hybrid Electric Vehicles (HEV)**
Lead-acid is getting lighter
- **Safety and Reliability**
Lead-acid – A longer track record in safety and reliability than other rechargeable battery technologies
- **Sustainability/Recycling**
Lead-acid – One of the highest recycling rates on the planet

Informational Sources:

- ¹ Smith Bucklin Market Research and Statistics Group (2011 National Recycling Rate Study)
- ² Aluminum Association, Can Manufacturers Association, and the Institute of Scrap Recycling Industries 2009
- The Rubber Manufacturer's Association (2009 tire recycling rates) 10/2011
- The American Forest & Paper Association (2010 paper recycling rates) 04/2012
- The Aluminum Association (2010 aluminum recycling rates) 06/2011
- Glass Packing Institute (2010 glass recycling rates) 04/2012
- Environmental Protection Agency (2010 solid waste recycling rates) 12/2011

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When we think of products that have a high rate of recyclability, items like glass, plastic, and newspaper usually come to mind. Most of us don't realize that the same battery chemistry that starts your car, stores power to enhance renewable energy utilization, backups critical data centers, and keeps the warehouse industry moving has one of the highest recycling rates on the planet. No other power source is utilized in more applications with such sustainability.



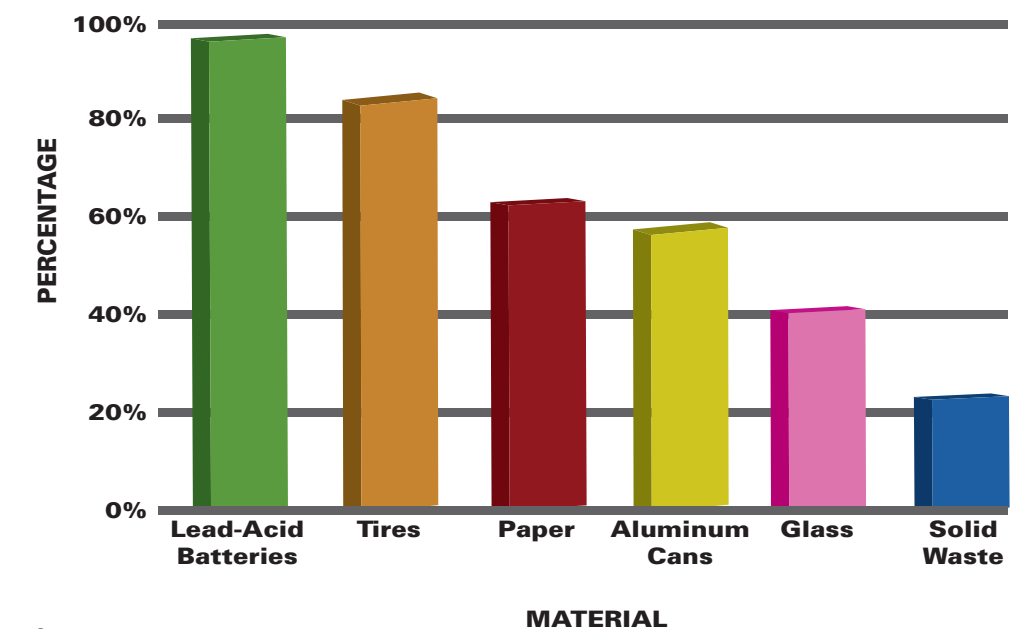
Sustainability/Recycling

Lead rates above other recyclable items

Lead-acid batteries are essentially 100% recyclable. During the recycling process, a battery is separated into three distinct components. The lead is smelted and refined to be used in new batteries. The plastic case is recovered and its material cleaned, and molded into new battery cases. The used acid is even recycled for reuse.

More than 98 percent of all battery lead is recycled. This compares to 58% of aluminum soft drink and beer cans, 63% of paper, 41% of glass bottles and 85% of tires. Lead-acid batteries top the list of the most highly recycled consumer product¹.

Recycling Rates - Percentage of Reclaimed Materials



Source:
 Smith Bucklin Market Research and Statistics Group (2011 National Recycling Rate Study)
 The Rubber Manufacturer's Association (2009 tire recycling rates) 10/2011
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The technological innovation in safe recycling has made lead more sustainable than ever. Along with its high recyclability, you won't find a battery chemistry that's safer, more abuse tolerant, more dependable or more available than the lead-acid battery product.

Lead-acid reclamation is a genuine recycling success story.

Lead-acid technology has been around for over 150 years. An innovative recycling infrastructure has been developed to recycle essentially 100% of a lead-acid battery, and industry-supported regulation ensures that these products are returned to appropriate locations. This system is utilized for the newer advancements of carbon-based lead-acid technology as well as established products. Other newer battery technologies can't come close to the recycling advances and developed infrastructure to reclaim the lead-acid product. The processes for recycling lead-acid batteries and the facilities that support it have progressively advanced over the years and are one of the greatest recycling success stories in the global marketplace.

Proper lead-acid recycling does not harm the environment. In fact, it helps to support agricultural needs and enhance energy conservation.

Lead recycling facilities must be in regulatory compliance with the U.S. EPA and various state and local agencies related to environmental welfare. Many innovative systems have been developed to harness byproducts of the process and use them in a very beneficial capacity. For example, residual sulfur trapped during the recycling process is processed into fertilizer used for agricultural purposes. Also, heat from facility furnaces is used as a radiant heat source during cold weather, saving on traditional heating methods.

Lead is one of the most sustainable raw materials on the planet.

Recycling is more energy-efficient than mining and smelting new lead. The lead from a dead battery can be refined into new alloy over and over again making much better use of existing resources. Its sustainability is unmatched and serves as a buffer to raw material price fluctuations that could compromise the practicality of commercial use.

The supply of lead is not dependent on one dominating international source, unlike material used in some other forms of energy power storage. The vast domestic recycling infrastructure plus the contributions from many developed countries with safe lead-acid battery recycling facilities make lead a plentiful and reliable source.

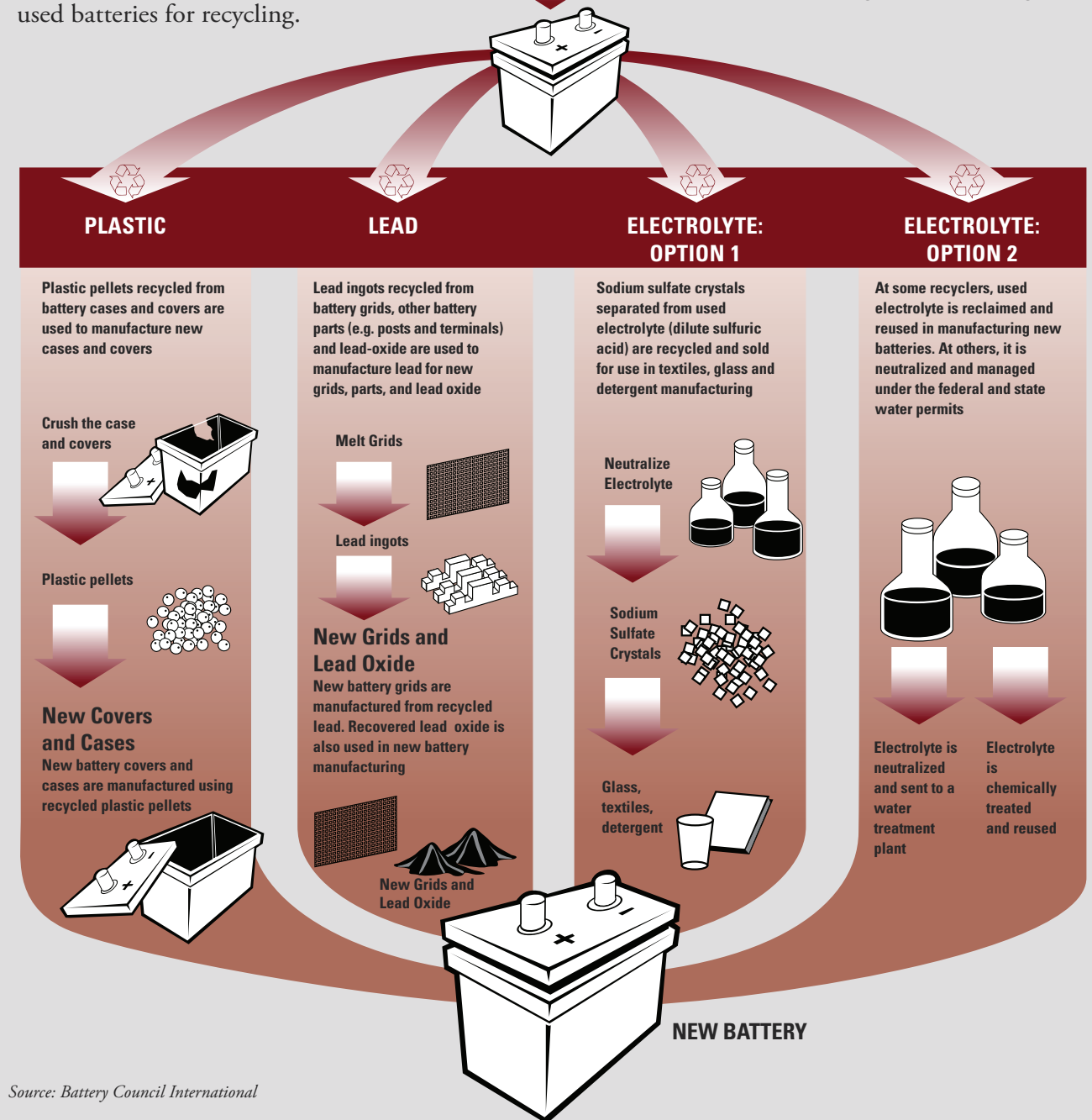
Recycling for a Better Environment

TRANSPORTATION

The same network that distributes new batteries also safely collects and returns used batteries for recycling.



At the recycling facility, used batteries are broken apart and separated into components to begin the recycling process.



Source: Battery Council International