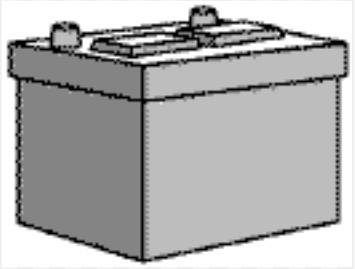
The Role of Third Party Certification: Better Environmental Sustainability Targets (BEST) Battery Certification



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Battery Recycling In New Delhi
Something can be done about this:

The Tianneng Battery Factory in Zhejiang Province, China

The site of a violent protest in August 2005 following the discovery of lead poisoning among 700 children residing near the plant.

Review of Lead Battery Industry in Developing Countries from Studies Published (1993 - 2010)

- Average blood lead level in manufacturing plants was 47 ug/dl and 64 ug/dl in recycling facilities;
- Average air lead level was 367 ug/m^3 or 7 times U.S. OSHA permissible level;
- Geometric Mean blood level among children living near plants: 19 ug/dl.

From: Gottesfeld, P. and Pokhrel, A., "Review: Lead Exposure in Battery Manufacturing and Recycling in Developing Countries and Among Children in Nearby Communities." JOEH, 8:520-532 (2011).

California Lead Battery Recycling Plant Ordered To Close

- Lead battery recycling plant outside Los Angeles ordered to close in 2015.
- Exide agreed to spend at least $47 million dollars on cleaning up the site and contaminated residential properties!
- Actual cleanup cost may be $500 million dollars!

Lead Emissions from Solar Photovoltaic Energy Systems in China and India

- China adding 1.6 GW of solar capacity by 2020, and India plans 12 GW by 2022;
- Life cycle loss rates from mining, battery production, and recycling total – 33% (China) 22% (India);
- Estimated losses of 2,416 kt to the environment or one-third of global (2009) lead production.

From: Gottesfeld P. & Cherry C. "Lead emissions from solar photovoltaic energy systems in China and India." Energy Policy 39:4939-4946 (2011)

Why are developing countries more susceptible to lead poisoning?

- More opportunities for exposure.
- Manufacturing and primary smelting are shifting to countries with weaker standards.
- Poor nutrition increases lead absorption.
- Higher proportion of children.
- Lack of infrastructure for battery collection and recycling.
- Absence of health screening programs.
- Growth in lead battery market.

Collection: Key to Improved Recycling

- Few countries have laws on product stewardship or taking back used lead batteries;
- India has mandatory performance targets for battery companies to take back 90% of used lead batteries;
- Vietnam has a take back provision but no mandatory minimum collection price;
- To be successful collection mechanism must be aligned with the financial mechanism.

Successful Collection Models

- Deposit/Refund
- Purchase Discount
- Mandatory regulation to require manufacturers to pay a minimum amount for a used lead battery;
- Price must be set above the price paid by informal sector but below the value of the lead;
- The higher the price paid -- the more that will be returned.

Better Environmental Sustainability Targets (BEST) Certification

- Reward Battery companies that meet specific emission targets and agree to take back used batteries;
- Certified companies can apply this eco-label on their products:

BEST
Better Environmental Sustainability Targets

Contents of BEST Standard 1001

- Air Emissions
- Water Emissions
- Occupational Health & Safety
  - Airborne exposures
  - Blood lead monitoring/ Medical removal
  - Engineering controls
  - Personal hygiene
- Other Environmental Impacts
- Take back used batteries

What is Third Party Certification?

- First party verification is a manufacturer's own claim promoting an environmental attribute;
- Second party verification is where an affiliate or trade group certifies based on standards developed by its members;
- Third party verification is done by an independent source (e.g. certification body) that provides recognition to products based on a specific standard.

Benefits of Third Party Certification

- Levels the playing field
- Supply chain monitoring is next frontier in sustainability efforts
- Integrates and extends ISO 14001
- Third party monitoring provides credibility
- Compliments regulatory schemes

Benefits of Third Party Certification For Manufacturers

- The eco-label allow participating battery companies to differentiate themselves among customers.
- Distinguishes formal-sector manufacturers from poor quality producers.
- Battery manufacturers benefit from improved lead battery recycling.
- Environmental preferable products are commanding a premium in the market.

Role of Governments in Certification Programs

- Reference to third party certification in national laws and regulations.
- Adopt preferred purchasing programs for certified lead batteries.
- Complements extended producer responsibility mandates.
- Helps enforce environmental and occupational standards.

Complements Regulatory Efforts

- Certification is not a substitute for regulation.
- Comprehensive standards needed for lead battery recycling/manufacturing:
  - Environmental emissions;
  - Occupational exposures;
  - Provisions for plant siting and cleanup;
  - Hazardous waste handling; and
  - Take back of used lead batteries.

Can a Certification Model Be Applied to Recyclers?

- Comprehensive standard to cover environmental emissions and occupational exposures.
- But since there is no verifiable product label the model relies on collection programs and large purchasers to restrict sales of used batteries.
- Can help consolidate lead battery recycling if introduced along with regulatory mandate.

Conclusion

- Certification can be an important tool to change industry behavior but regulation is also needed!
- Certification provides a low-cost mechanism to verify compliance with regulations.
- Certification can help increase exports/ trade.
- Governments can encourage certification through mandates and preferred purchasing.

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