Call2Recycle, Inc.

Changing habits. Inspiring action.™

BATTERIES: ENVIRONMENTAL AND SOCIAL BEST PRACTICES

MAG SOLID WASTE ADVISORY COMMITTEE

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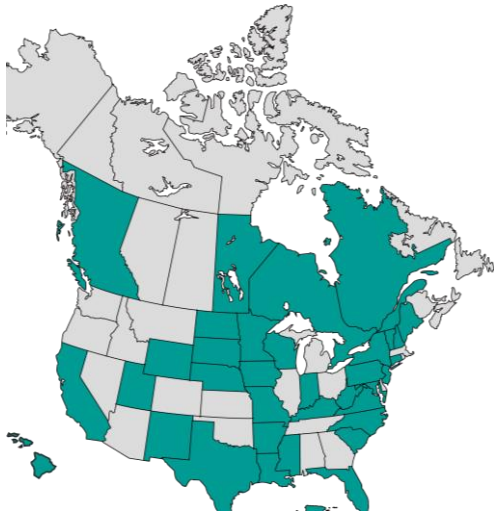
Call2Recycle, Inc. Overview

- Non-profit founded in 1994 by industry to address the emergence of producer responsibility regulations for batteries.
- In the U.S., funded primarily by rechargeable battery stewards and, more recently, fee-based services.
- In the U.S., we're primarily a voluntary program except in certain states (e.g., Vermont, Minnesota, New York) where collections of some (but not always all) chemistries is mandated.
- In Canada, Call2Recycle® is primarily a mandatory program financed via Environmental Handling Fees (EHFs) applied at point of sale.
- Collected over 160 million pounds of consumer batteries since from over 20,000 publicly accessible sites.



Why focus on batteries in the first place?

- **Heavy Metals.** Some batteries contain heavy metals and the end-of-life handling, and subsequent impact of that, came into the "cross-hairs" of regulators.
- **"Drop the Hammer".** The U.S. EPA passed the "Battery Act" which 1) phased out the use of mercury in single use batteries and 2) paved the way for cost-effective collection for rechargeable batteries.
- **Passing of Battery Stewardship Laws.** A patch work of State's began passing laws requiring manufacturers and/or brand owners to finance a collection and recycling program for rechargeable batteries ONLY.
- **Call2Recycle Created!** Industry created Call2Recycle, Inc. to take on their compliance responsibility to collect used rechargeable batteries. In addition, manufacturers agreed to finance a national program instead of just the regulated states.
- **Rechargeable vs. Primary/Single Use.** With these laws focusing on rechargeable batteries only, and primary batteries no longer containing mercury, they are NOT hazardous waste.

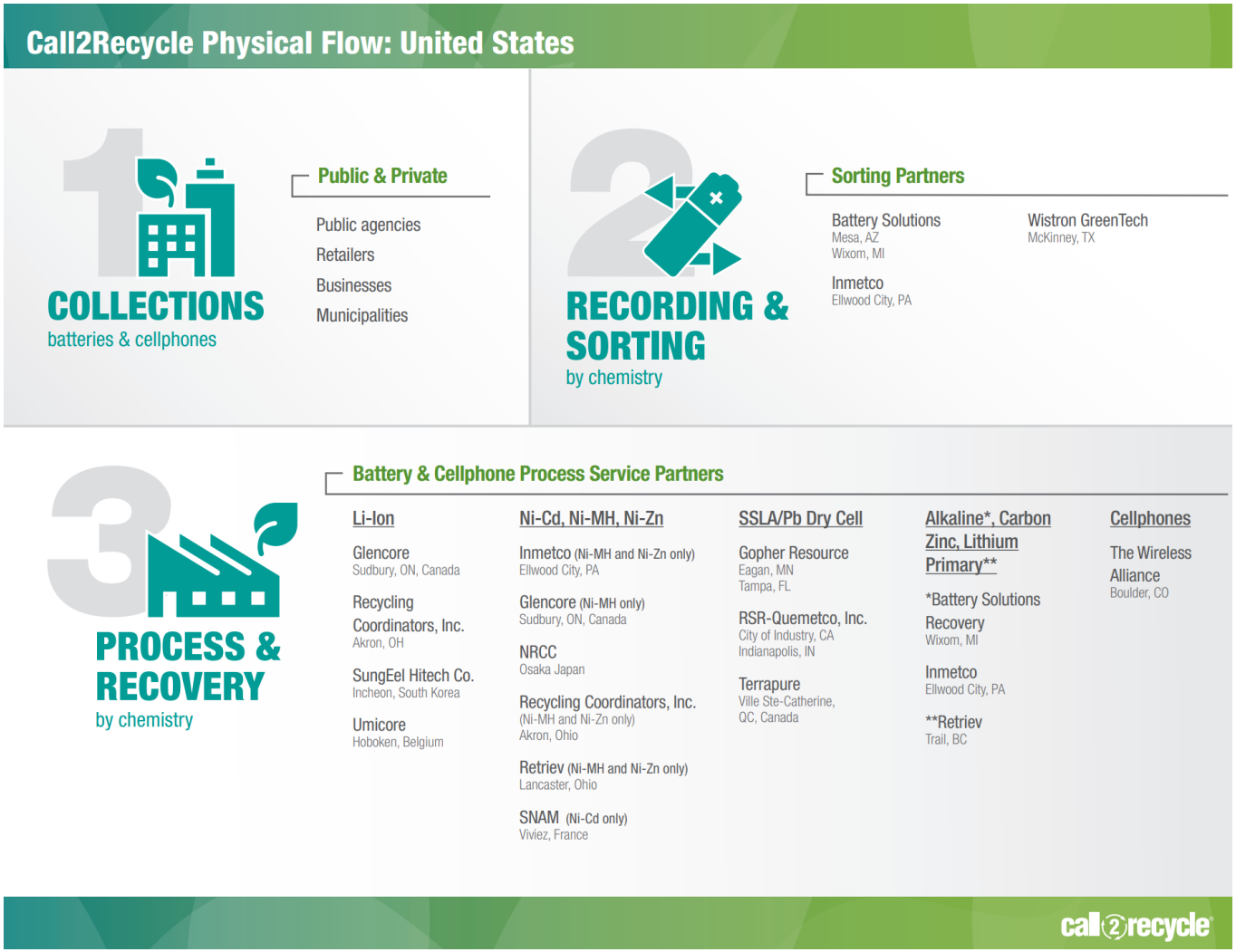
Shift in Thinking on Battery Recycling

- **Status Quo.** Battery recycling hummed along for a years without any major focus.
- **Public Demand.** Many consumers want to recycle all batteries, but the availability of programs collecting all batteries is LIMITED.
- **Shift in Thinking.** Primary or single use batteries were not a focus because they were no longer hazardous, but the discussion shifted to resource management.
- **Voluntary Approach No Longer Working.** At the same time, the rechargeable battery industry began to realize the voluntary approach to battery stewardship will not work in the long term – too many free riders!
- **Stakeholder Meeting.** The battery industry brought stakeholders together to put a framework together to create an all battery recycling program.

Where Are We Today?

- **Vermont.** The first and only state in the U.S. with a primary battery stewardship law.
- **Legislation has come and GONE.** Many states have issued bills addressing battery stewardship in some form or fashion, but none have passed since Vermont in 2014.
- **Lack of "Noise".** The common thread between all the states that have introduced bills with no luck is "support" … only people talking are lobbyists.
- **2020 Legislative Agenda.** We *anticipate* bills in NY State (primary batteries), Minnesota (update existing law to include primary batteries), Maine (all batteries) and California (???).
- **Pillars of a battery stewardship law.** Focus on all batteries (current & future) with clear definitions, no "carve outs", private right of action, correct accessibility across the state.

Once it leaves here … where does it go?



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“Brought to you by …”

… The WONDERFUL Lithium Ion Battery!!!

Why lithium ion batteries?

- Cost has decreased over the last several years.
- When compared to other battery types, it has a higher energy density.
- Little to no maintenance required.
- Low self-discharge.

What are the challenges of managing used lithium batteries?

- Battery management is NOT an initial core focus.
- Managing lithium batteries can be complicated.
- Proper battery management is a COST.
- Lack of local battery processing.

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Proper Battery Management!

- **First Step is "Acceptance".** Accept that your organization will need to dedicate resources to ensure proper battery management.
- **Size the Issue.** Inventory the sites, volumes AND types of materials and/or batteries that need to be managed.
- **Designate a Storage Area**. Determine where and how collected batteries will be stored at your facility (often dictated by size and type of facility) –
  - Isolate away from other materials (i.e., recyclables = fuel)
  - limit exposure to the elements (i.e., extreme temp., rain, etc.).

Proper Battery Management! (Cont.)

- **Develop Standard Operating Procedures.**
  - **Used Batteries**. Identify the battery, terminal protection, take to the storage area, add to correct storage container.
  - **Damaged or Defective Batteries.** Isolate the battery (i.e., kitty litter or sand in its own container), ship according to US DOT regulations.
  - **Thermal Event.** Isolate the battery from all other materials (if possible). Follow established emergency protocol i.e. CellBlock FPS.

- **Train Employees**. Train, train and train again. Use visuals to show examples of what to look for and review SOPs, and then train again (49 CFR Training).
- **Track & Adjust.** Track shipments incidents, volumes, etc. to find areas for improvement.

GREAT NEWS – You are NOT ALONE!

There are a plethora of resources, products and companies that can assist with proper battery management. Services/products include:

- Safety Products.
- Training Resources.
- Overall Consulting Services.
- Damaged Battery Containers.
- Battery Shipping and Recycling.
- Program Design and Implementation.

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Conclusion

- Battery recycling has changed significantly over the last 20 years.
- A change in thinking to resource management, combined with consumer demand pushed this change.
- Several states have looked at new battery stewardship laws, but nothing has passed since 2014.
- Several states have battery stewardship bills on their “agenda” for 2020 (and beyond).
- Include the learnings of over 25 years of battery stewardship and recycling into any new bill.
- Include ALL batteries to simplify the outreach message and maximize waste diversion.

Questions & Answers