



Extended Battery Producer Responsibility Framework Kick-off: Reviewing Guiding Principles and Elements

April 7, 2025

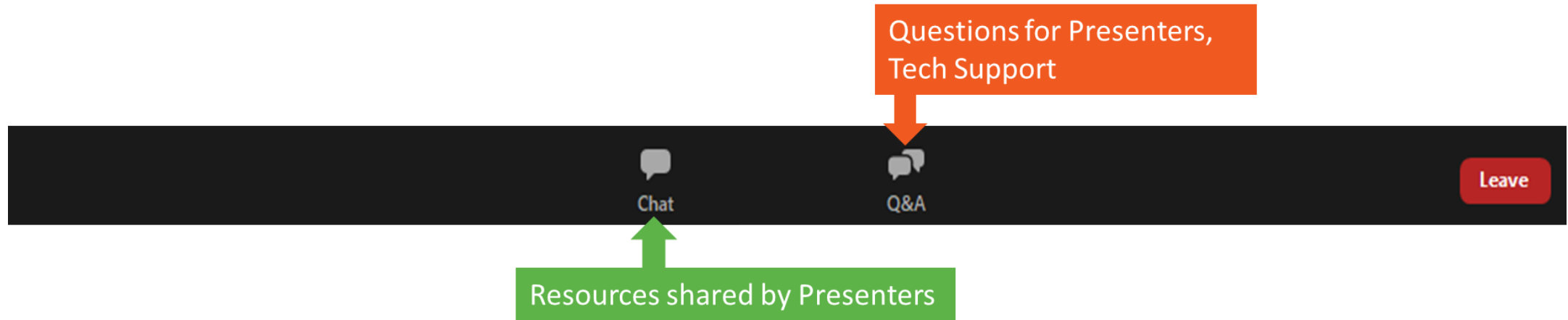
U.S. Environmental Protection Agency (EPA) and U.S. Department of Energy (DOE)

Logistics and Agenda Review

Pat Tallarico, Facilitator, Eastern Research Group (ERG) Support Team



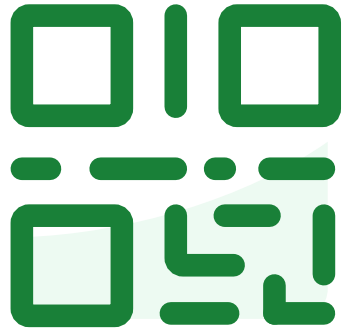
Webinar Logistics



- **To ask a question:** Type your questions for presenters in the Q&A box. We will answer questions at the end of each presentation. Please reserve this for questions only and send additional information to us at batteries@epa.gov
- **Technical difficulties:** If you are having technical difficulties, please send a message through the Q&A box or email Eirlys.Chui@erg.com

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Agenda

- Introduction and overview of the EPR framework initiative
 - **Kelly Visconti**, U.S. Department of Energy MESC
 - **Kim Cochran**, U.S. Environmental Protection Agency
- EPR policy overview and industry guiding principles for EPR
 - **Marc Boolish**, The Rechargeable Battery Association (PRBA)
- Policies in action – drivers, features, lessons learned
 - **Todd Ellis**, Call2Recycle
 - **Carin Stuart**, Call2Recycle (presenting for Vermont)
 - **Megan Warfield**, Washington State Department of Ecology
 - **Kent Holm**, Douglas County (NE) Environmental Services
- Large format battery EPR principles and policy landscape – needs, principles, challenges
 - **Jessica Dunn**, Union of Concerned Scientists
- Wrap-up and next steps



What best describes your organization?



Have you participated in previous EPA battery webinars?

Overview of the EPR Framework Initiative

Kelly Visconti, U.S. DOE and Kim Cochran, U.S. EPA



Why Batteries?

Batteries are central to our lives as they:

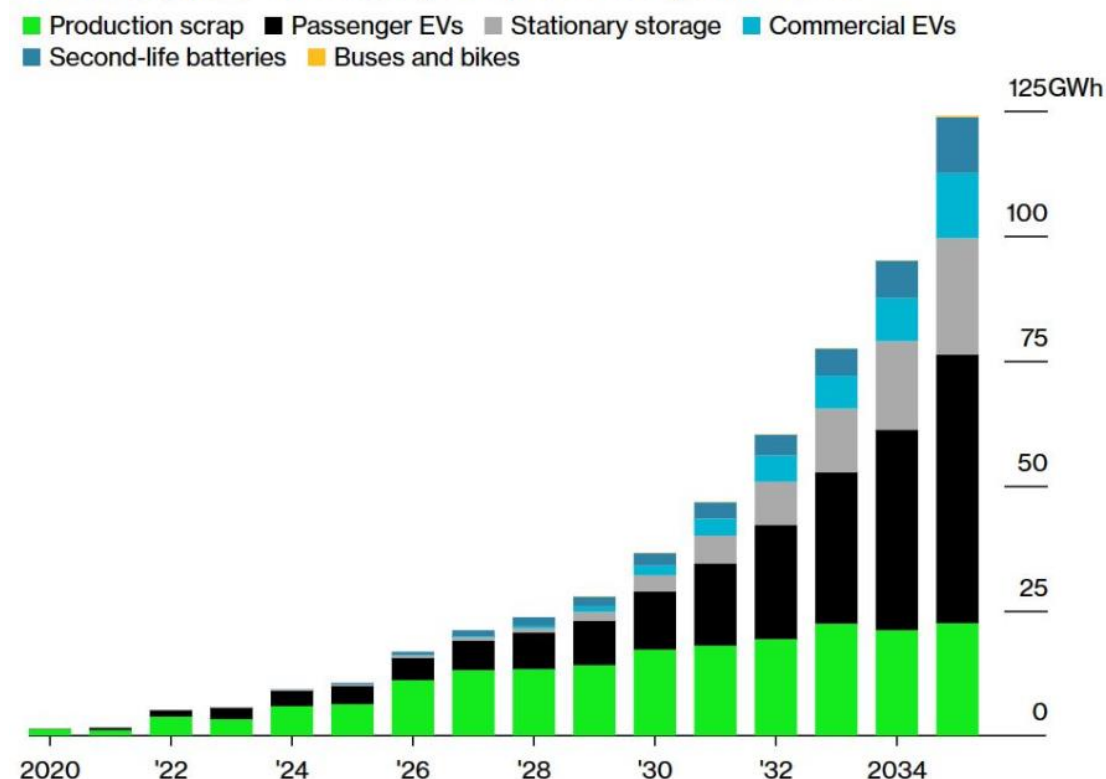
- Power everything from cars to consumer electronics
- Contain valuable metals that can be extracted and recycled

Increasing battery collection and recycling will help:

- Recover critical minerals
- Prevent fires by keeping batteries out of municipal waste streams
- Strengthen the domestic battery supply chain

Waste to Watts: US Battery Recycling to Average 30% Annual Growth

Material available from factory scrap and battery retirements



Source: BloombergNEF

EPA's Ongoing Battery-Related Projects

Separate but complementary requirements in the Infrastructure Investments and Jobs Act (IIJA):

**Extended Battery
Producer Responsibility
Framework**



**Battery Collection Best
Practices**



Education Materials



**Voluntary Battery
Labeling Guidelines**



Powering the Great American Comeback

- Activities are consistent with current administration priorities, including:
 - January 20, 2025, Executive Order "Unleashing American Energy"
 - Administrator Zeldin's Five Pillars to guide EPA's work:

Pillar 1:
**Clean Air,
Land, and
Water for
Every
American**

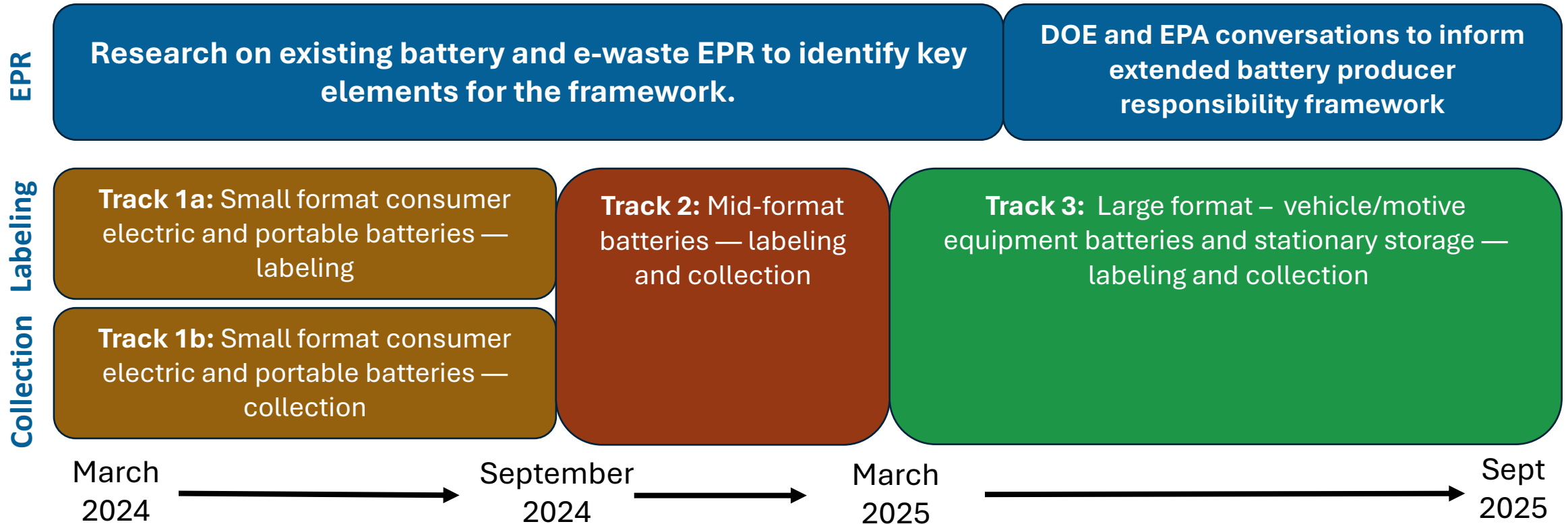
Pillar 2:
**Restoring
American
Energy
Dominance**

Pillar 3:
**Permitting
Reform,
Cooperative
Federalism,
and Cross-
Agency
Partnership**

Pillar 4:
**Make the
United
States the
Artificial
Intelligence
Capital of
the World**

Pillar 5:
**Protecting
and
Bringing
Back
American
Auto Jobs**

Timeline of Battery-Related Conversations



EPR Conversation Progression

- **April 7, 2025 – All batteries:** Kick-off conversation
- **Summer 2025 – Small/mid-format:** In-person meeting on Definitions, Financial Models, Governance, Reporting Requirements, and Performance Measures
- **August/September 2025 – Small/mid-format:** Virtual conversation on Collection Sites and report out from the summer conversations.
- **EPR considerations incorporated into upcoming large format working sessions:**
 - **April 24, 2025:** Current Standards for Large Format Batteries
 - **June 17, 2025:** Expanding End of Life Management for Large Format Batteries

Vision for an Extended Battery Producer Responsibility Framework

- A voluntary EPR framework, not meant to be a model bill, that provides current practices and related options, challenges, and considerations
- Aimed at supporting states in EPR design and implementation and promoting consistency across jurisdictions
- The framework will address, at a minimum, the key elements specified in the IIJA:
 - Battery recycling goals
 - Cost structures for mandatory recycling
 - Reporting requirements
 - Product design
 - Collection models
 - Transportation of collected materials, including safely storing and handling

Scope of Batteries

| Category | Small format consumer electric and portable batteries | | Mid-format batteries | Large format batteries |
|----------|--|---|---|---|
| Type | Single use (Primary) | Rechargeable (Secondary) | Rechargeable | Rechargeable |
| Use | Removable or embedded in electronics and electric devices, such as watches, hearing aids, cameras, key fobs, toys, portable radios, flashlights. | Removable or embedded in electronics and electric devices, such as phones, computers, appliances, small uninterruptable power supplies (UPS), power tools, power banks. | E-mobility including e-bikes, e-scooters. Outdoor power equipment. Portable power stations. | All scales of automotive starting and motive vehicle batteries. Materials handling equipment (forklift, crane, etc.) Recreational (golf carts, marine equipment, recreational vehicles, etc.) |

Key EPR Elements for Small/Mid-format Consumer Batteries

Elements for an EPR Framework

| | | | |
|---------------------------------|---|------------------------------------|-------------------------|
| Definitions | Government obligations | Financing | Stewardship plan |
| Producer/PRO obligations | Enforcement | Collection models & transportation | Implementation timeline |
| Performance standards & targets | Labeling requirements | Environmental considerations | Education & outreach |
| Data collection & reporting | Alignment with other policy instruments | Fairness considerations | |



What EPR elements are most important to define or deliver consistently across states?

EPR Policy Landscape and Industry Guiding Principles

Marc Boolish, The Rechargeable Battery Association (PRBA)





National Battery EPR Framework

Reviewing Guiding Principles and Elements

April 7 2025

Marc Boolish

PRBA – The Rechargeable Battery Association

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<https://www.prba.org/>



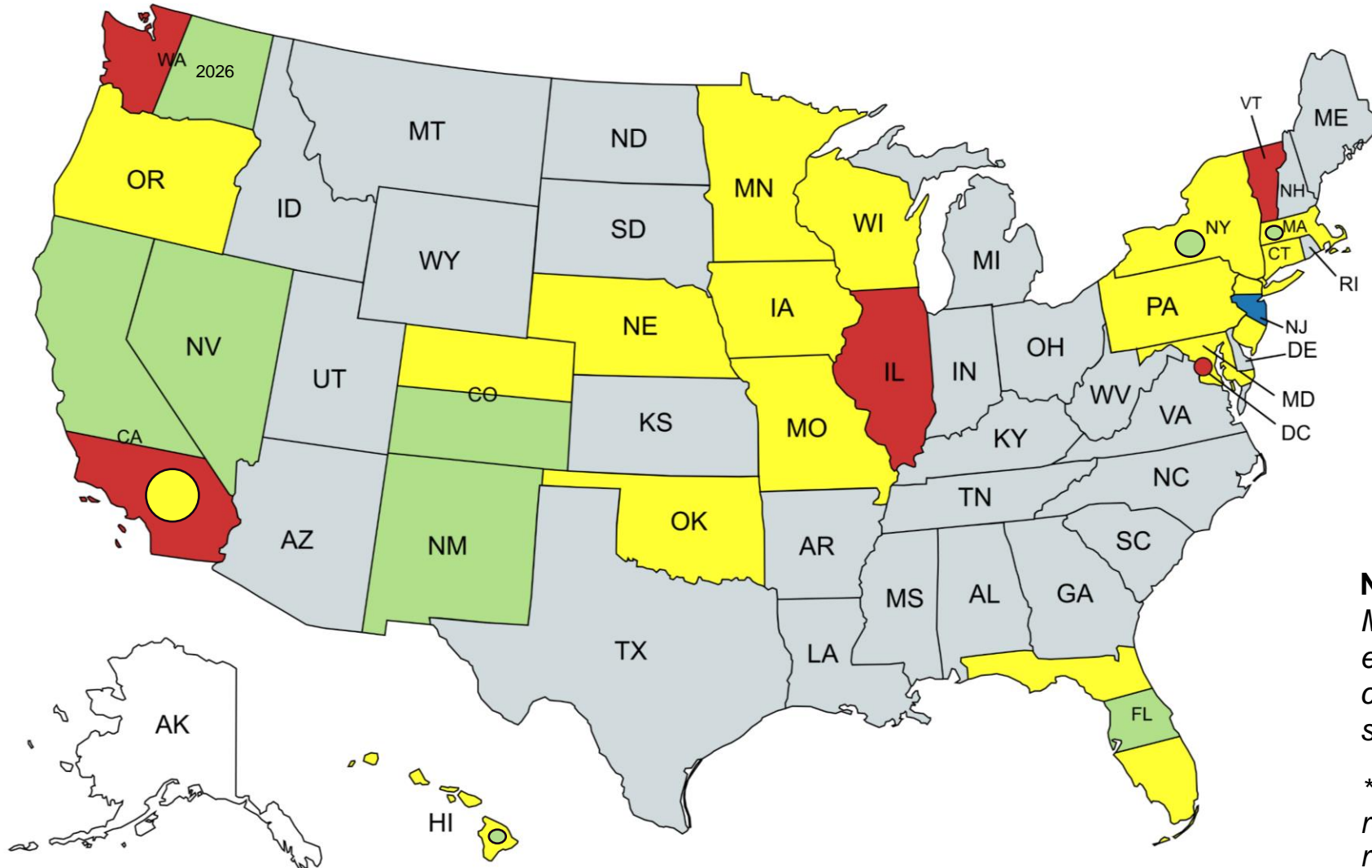
Agenda

- EPR policy landscape
- Industry perspective
- Industry advocacy / recommendations
- Lessons learned



State Portable and EV Battery EPR Initiatives

Updated March 10, 2025



Existing laws or recently enacted portable battery legislation*

Recently enacted EV battery legislation

Considering or has introduced EV battery legislation for 2025

Considering or has introduced portable battery legislation for 2025*

Voluntary rechargeable battery collections

Note: Iowa, Florida, Maryland, New Jersey, Maine, New Hampshire, and Connecticut enacted laws in the 1990s mandating collection of portable nickel cadmium and small sealed lead acid batteries.

* Minnesota and New York currently require the collection of portable rechargeable batteries.

Industry Perspective



- Strong support for responsible battery stewardship at end-of-life
 - Circular economy
 - Safety concerns
- EPR programs should vary depending on battery size and applications



Industry Recommendations

Key Provisions in Battery EPR Legislation



- Limited state agency oversight
- Annual reporting to state agency on battery collections
- Avoid overly complex legislation and regulations
- Producer Responsibility Organization (PRO) is necessary for portable/medium format battery EPR programs, but should be optional for EV battery and ESS EPR program
- For portable/medium format batteries, focus on convenience metrics instead of collection rates



Industry Recommendations

Key Provisions in Battery EPR Legislation



- For EV and ESS batteries, must account for secondary use and removing OEM obligations
- Some antitrust protection when establishing a PRO
- Private right of action for PRO
- Retailer obligation for portable/medium format batteries
 - Voluntary participation as a collection site
 - Collection as part of stewardship organization
 - Ensure products sold are part of PRO



Industry Recommendations

Exceptions in Legislation for Portable and Medium Format Batteries



- Embedded batteries
- Lead acid batteries greater than 11 lb.
- Batteries with free liquid electrolyte
- Medical devices not designed or marketed for sale or resale to consumers for personal use
- Recalled batteries
- Automotive peripheral batteries



Lessons Learned for Portable and Medium Format Batteries



- Every state views EPR a little differently, but most are following same framework for EPR program
- Consistent schedule for filing and implementing plans
- Disposal ban
- Agency interest in oversight
- Importance of private right of action
- Small battery labeling exceptions





Questions?

Marc Boolish

PRBA – The Rechargeable Battery Association

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<https://www.prba.org>



Policies in Action – A Producer Responsibility Organization (PRO) Perspective

Todd Ellis, Call2Recycle





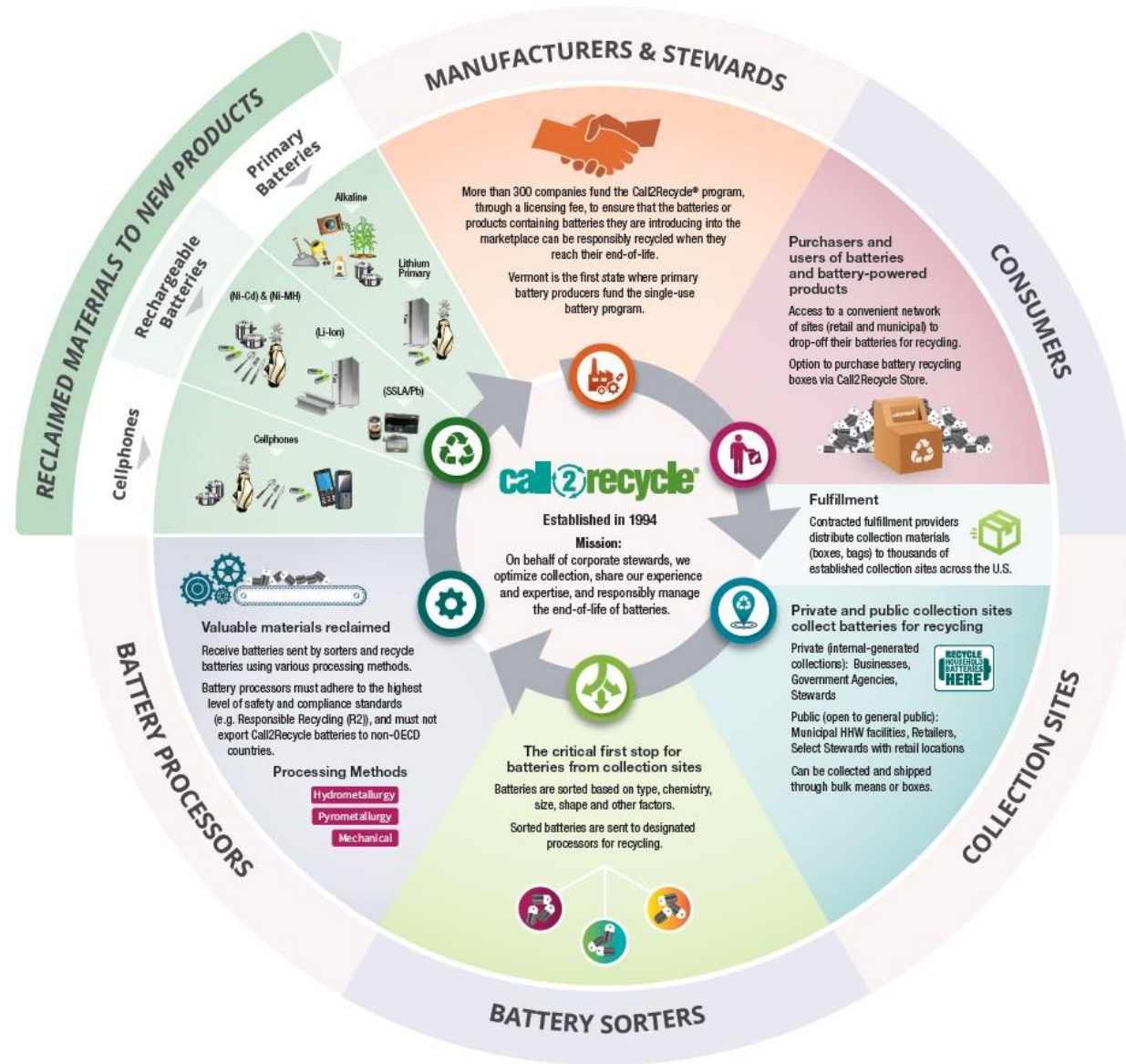
Leading the charge for recycling.™

EXTENDED BATTERY PRODUCER RESPONSIBILITY FRAMEWORK KICKOFF: REVIEWING GUIDING PRINCIPLES & ELEMENTS

April 7, 2025
Todd Ellis

Delivering on Our Purpose

How the Program Works



Call2Recycle's Stewardship Service

Call2Recycle's Stewardship Service assists obligated producers with complying to battery extended producer responsibility laws.

- Nearly 30 years of battery collection and recycling.
- Over 200 Steward partners.
- 85%+ of US population within 10 miles of a Call2Recycle collection site.
- Collected more than 160 million pounds since inception.



Battery EPR Law Passes – Now What?

Call2Recycle's Stewardship Team is responsible for managing the organization's state battery stewardship plans.

The Team immediately goes to work -

- Steward Awareness & Education on Law.
- Introduction to the State Regulatory Agency.
- Collection site analysis to meet “accessibility requirements”.
- Draft State Battery Stewardship Plan.



Battery Stewardship Organization Obligations



Plan Development

12 to 18 months to write and receive approval

- ✓ Must have new plan approved by agency every 5 years
- ✓ Work with stakeholder groups per most new laws
- ✓ Propose performance metrics for
 - Consumer awareness
 - Collection weight
 - Collection rate
- ✓ Development of education & outreach plans for consumers
- ✓ Provide operational details of the program including approved sorters and processors as well as Call2Recycle's oversight and audit of the operations network
- ✓ Safety plans, including damaged, defective and recalled
- ✓ Provide funding mechanism and propose three-year budget



Battery Stewardship Organization Obligations (Cont.)

Plan Administration

- ✓ Oversee collection site growth, support, and safety
- ✓ Administer education and outreach plans
- ✓ Administer annual consumer survey
- ✓ Continual improvement of performance metrics
 - ✓ Accessibility
 - ✓ Consumer awareness
 - ✓ Collection targets
- ✓ Meetings with stakeholders
 - ✓ Regulatory agency
 - ✓ Local solid waste stakeholders
 - ✓ Retailers



Battery Stewardship Organization Obligations (Cont.)

Annual Report

- ✓ Approximately 40-50 hours to develop & write.
- ✓ Includes summary of results for approved performance metrics
- ✓ List of active collection sites with contacts
- ✓ Assessment of program
- ✓ Plans for coming year
- ✓ List of active stewards and brands



Battery Stewardship Organization Obligations (Cont.)



Battery Collection Network



OVERVIEW

Training Overview

- 1 Battery & Program Basics
- 2 Safe Battery Handling, Preparation, and Shipping
- 3 Test Your Knowledge

Call2Recycle Physical Flow: United States

1 COLLECTIONS

batteries & cellphones

Public & Private

- Public agencies
- Retailers
- Businesses
- Municipalities

2 RECORDING & SORTING

by chemistry

Sorting Partners

- Battery Solutions
Mass, AZ
Winn, TX
- Winn GreenTech
McKinney, TX
- Immetco
Elwood City, PA

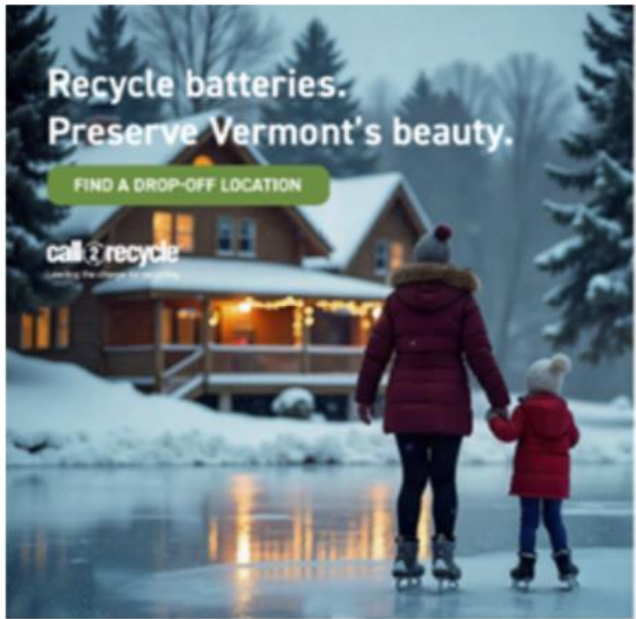
3 PROCESS & RECOVERY

by chemistry

| Battery & Cellphone Approved Downstream Vendors | | | | |
|---|---|--|--|--------------------------------------|
| Li-Ion | Ni-Cd, Ni-MH, Ni-Zn | SSLA/Pb Dry Cell | Alkaline, Carbon Zinc, Lithium Primary | Cellphones |
| Li-Cycle Rochester, NY | Evergreen Battery Recycling (Ni-Cd only) Troy, OH | Gopher Resource Eagan, MN | Battery Solutions Recovery (Alkaline only) Winn, TX | The Wireless Alliance Boulder, CO |
| Recycling Coordinators, Inc. Perth, ON | Immetco (Ni-MH and Ni-Zn only) Elwood City, PA | RSR-Quemetco, Inc. Indianapolis, IN | Immetco (Alkaline) Elwood City, PA | |
| Redwood Materials Carson City, NV | Kobor Republic of Korea | | RMC (Alkaline only) Port Colborne, ON, Canada | |
| Retriev Lansdale, OH | NECC Osaka, Japan | | Redwood Materials (Lithium Primary only) Carson City, NV | |
| SungEel Hitech Co. Incheon, South Korea | Recycling Coordinators, Inc. (Ni-MH and Ni-Zn only) Perth, ON | | Retriev (Lithium Primary only) Trot, BC | |
| Unicore Hoboken, Belgium | Redwood Materials (Ni-MH only) Carson City, NV | | | |
| | Retriev (Ni-Cd only) Lansdale, OH | | | |
| | SNAM (Ni-Cd only) Vincennes, France | | | |

Battery Stewardship Organization Obligations (Cont.)

Outreach & Education



Easy steps for battery recycling this back-to-school season:



2) Drop your batteries off

call2recycle
Leading the charge for recycling.



1) Find a drop-off location



3) Shop for school supplies

@CALL2RECYCLE.ORG
X @CALL2RECYCLE

SUSTAINABLE SOLUTIONS

FOODCYCLER® BY CASELLA
A New Food Waste Solution! FoodCycler® is a countertop appliance that grinds and dries your food scraps. Reduce your food scraps by 90% with the touch of a button, de-stink your trash and say goodbye to kitchen flies and trash bin pests. Learn more at casella.com/foodcycler

DUMPSTER RENTAL
Did you know? We also offer dumpster services to make home improvement projects easy. Call 800-CASELLA.

BULKY WASTE
Getting rid of an old mattress or other furniture part? We can help! In many areas, mattress recycling is now available. Give us a call at 800-CASELLA to see if we offer bulky pickup in your area.

SUSTAINABILITY REPORT
At Casella, we're not just doing for the ride, we're driven to make a difference. Read more about our sustainability journey in our 2024 Sustainability Report: casella.com/sustainability

BATTERY SAFETY
Did you know Vermont has a new battery recycling law? As of July 2024, it's ILLEGAL to put any consumer batteries in your trash, outside recycling or landfill. Mixing batteries in your trash or recycling bin is dangerous for both waste workers and emergency responders. Break up and properly dispose by recycling your household batteries at any Call2Recycle drop-off center. To find a location near you, visit call2recycle.org/locator - it's easy and free!

RECYCLING
Toss **ONLY** the recyclable items listed below into your recycling bin

CARDBOARD/PAPER

- Corrugated & Boxboard (Clean & Dry)
- Junk Mail, Periodicals & Office Paper (Phone tags, staples & staples)

PLASTIC **METAL** **GLASS**

- Plastic Bottles, Jugs, Tubs & Lids (Empty bottles, laundry & bath containers & cans)
- Aluminum & Steel Cans (Flat & empty food & beverage cans)
- Glass Bottles & Jars (Empty food & beverage bottles & jars)

Remember to Recycle Better!

- ✓ All containers are empty, rinsed & dry
- ✓ No items smaller than 2"
- ✓ Cardboard is flattened & broken down
- ✓ There are NO items from the **NOT ACCEPTED** list in the recycling bin

A blue Casella recycling bin with the company logo on it.

In Closing



- Stewardship Organizations have 12-18 months to develop, submit, and work to approve a plan.
- New laws (and ones being proposed) Include medium format and DDR batteries.
- Battery Stewardship is more than recycling.



Questions & Answers





Leading the charge for recycling.™

thank you!

Todd Ellis
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Call2Recycle, Inc.
1000 Parkwood Circle, Suite 200
Atlanta, Ga 30339

Policies in Action – Vermont

Carin Stuart, Call2Recycle





Vermont Battery Stewardship

Developed in partnership with Vermont Agency of Natural Resources (ANR)
and Call2Recycle, Inc.

Primary Battery Stewardship Law - Act 139

call2recycle®

Give your old batteries a new life, Vermont. **Recycle them!**



You can now recycle your single-use batteries in Vermont at no cost.

Simply bring your *rechargeable and single-use* batteries to any participating Call2Recycle® collection site.

Find one near you:
Visit call2recycle.org/vermont | Call **1-877-2-RECYCLE**

© 2016 Call2Recycle. All rights reserved.

- ▶ Primary battery Law first passed in 2014; VT had successful history with EPR.
- ▶ Municipalities organized and lobbied for primary battery stewardship law. Had strong voluntary rechargeable battery collection.
- ▶ Single use batteries showing up in waste composition study.
- ▶ Recycling processes improved so that capturing single use batteries became feasible.
- ▶ \$15,000 annual fee submitted to ANR per Plan. Currently, one plan implemented by Call2Recycle for current primary battery stewardship plan.
- ▶ ANR responsible for enforcement to ensure level playing field.

Battery Stewardship Law - Act 152

- ▶ The Association of State and Territorial Solid Waste Management Officials (ASTSWMO) 2023 study - 39 states responded the #1 difficult to manage material of concern was **lithium-ion batteries**.
https://astswmo.org/files/Policies_and_Publications/Materials_Management/2024-04-04-Final-Difficult-to-Manage-Materials-Survey-Report.pdf
- ▶ Municipalities and Agency interested in expansion for safety and fairness.

What Changed?

Covered Batteries

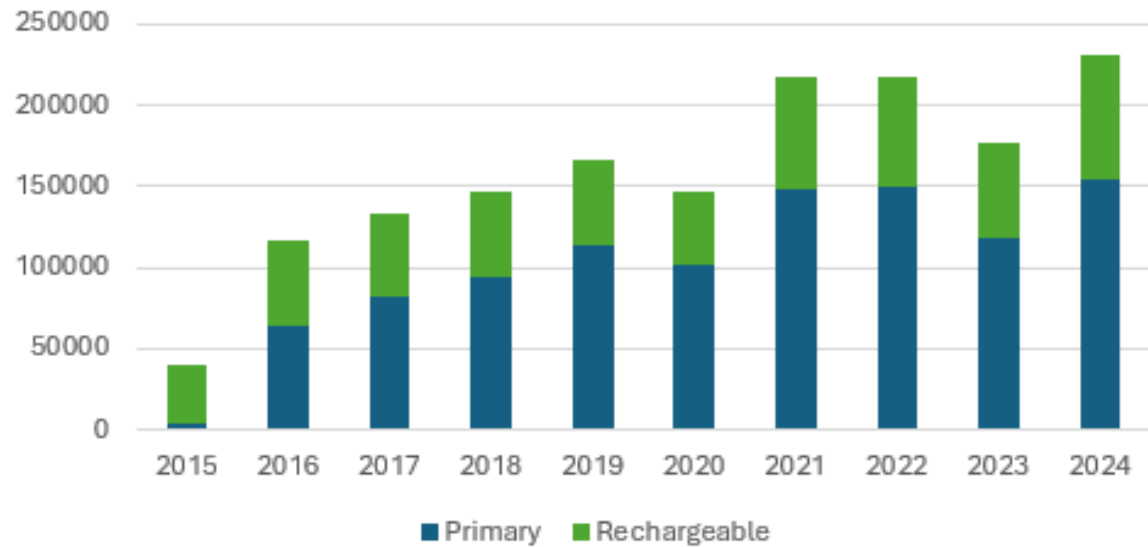
- ▶ Primary & rechargeable batteries less than 25 lbs. or having a watt-hour rating of 2,000 or less
- ▶ Damaged and Defective
- ▶ Battery-containing products that have easily removeable batteries or are packaged with rechargeable or primary batteries

Producer Requirements

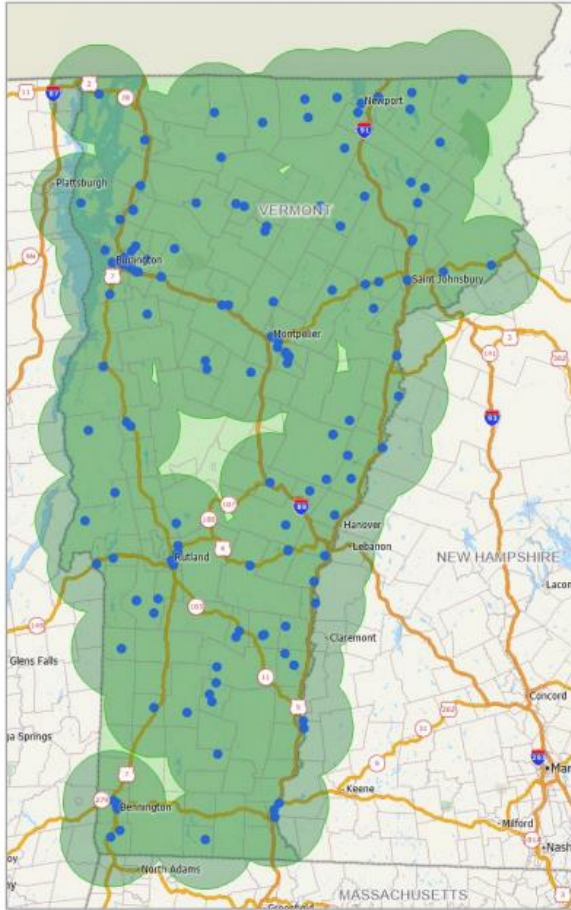
- ▶ Requires manufacturers to register with Vermont ANR
- ▶ Provide a Stewardship Plan to manage the proper recycling & management of Covered Batteries

Vermont Collections

Batteries Collected (lbs)
EPR program collection began in 2015



- ▶ 2020 dropped due to covid lockdown actions given less retail traffic
- ▶ 2026 - rechargeable weight likely to increase given expanded scope for batteries over 300 Wh.
- ▶ In all-battery collections, generally 65% primary and 35% recharge.



Collection Site Accessibility

- ▶ The Stewardship Plan(s) must establish a collection program supported by producers for all covered batteries and provide a minimum of 2 collection facilities in each county.
- ▶ DD and over 300 lithium batteries at certified solid waste facilities.
- ▶ Currently over 180 collection sites. Collection began January 1, 2016.
- ▶ 98% of Vermonters live within 10 miles of a battery drop off location.
- ▶ New all battery program to begin approximately January 2026.

Collection Materials



- ▶ Packaging, transportation, outreach and recycling are paid for by the producers.
- ▶ Consumers can recycle their batteries at no cost.
- ▶ Both primary and rechargeable batteries are collected in the same kit; allowing for convenience and increased recycling.
- ▶ Collection solutions for:
 - ▶ under 300 Wh (traditional boxes or OneDrum)
 - ▶ between 300 and 2,000 Wh (OneDrum)
 - ▶ Damaged and Defective

What's Next

- ▶ Need to continue to increase consumer awareness and actions to recycle
- ▶ Safety and awareness (collection sites and consumers)- continue to be focus moving forward
- ▶ Submittal, approval, and launch of new expanded battery stewardship plan
 - ▶ One Drum and DD kits roll-out to certified solid waste facilities

Questions?



Mia Roethlein

VT DEC Solid Waste Program

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<https://dec.vermont.gov/single-use-and-rechargeable-batteries>



Carin Stuart

Director Stewardship Services

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Policies in Action – Washington

Megan Warfield, Washington State Department of Ecology





Leading the Charge

Battery Extended Producer Responsibility in Washington

Megan Warfield

April 2025

Battery EPR

- Washington's battery law ([Chapter 70A.555 RCW](#)) creates a statewide system for collection & recycling of batteries.
- Operated by a battery stewardship organization(s) with Ecology oversight.
- FREE to the public.
- Multiple types of batteries covered.



Program Milestones



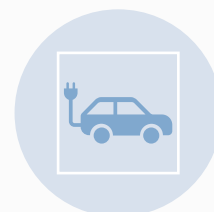
Rulemaking
Mar 2024 – Dec
2025



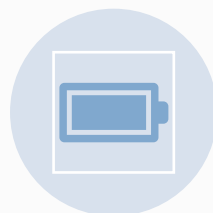
Medium format
batteries
Jan 2029



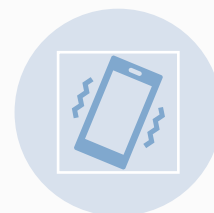
Stewardship plans
due July 2026



EV Battery Report
May 2024



Portable batteries
July 2027



Study excluded
battery types
Oct 2027

Key Elements

Definition of
“producer”

“Covered”
batteries

Strong
convenience

Funding
structure

Required
stewardship
plans

Performance
goals

Education
and outreach

Management
standards

Reporting
requirements

Enforcement
authority

Sales
Restrictions

Challenges & Lessons Learned

- Clarity around definition of “producer”
- Exclusion of embedded batteries
- Developing state-specific marking/labeling requirements
- Accounting for RCRA compliance
- Path for damaged & defective batteries
- Voluntary versus mandatory participation



DEPARTMENT OF
ECOLOGY
State of Washington



Join our email list to
receive updates.

Thank you

Megan Warfield

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Policies in Action – Nebraska

Kent Holm, Douglas County Environmental Services



Nebraska Battery EPR Legislation

The Safe Battery Collection and Recycling Act

Kent E. Holm

Douglas County (NE) Environmental Services Director

What's driving the issue in Nebraska?

- Increased battery-related fires
- Increased insurance premiums
- Battery EPR is best practice

LB309

The Safe Battery Collection and Recycling Act



Senator Jana Hughes

Nebraska LB309 Framework

Next steps

- Natural Resources Committee priority bill
- Floor debate (3 rounds)
- If approved ... full implementation in 2028.
- Volunteer program development between now and then.



Kent E. Holm

Douglas County (NE) Environmental Services Director

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Large Format Battery EPR Principles and Policy Landscape – Needs, Principles, Challenges

Jessica Dunn, Union of Concerned Scientists



A photograph of a blue car chassis, likely an electric vehicle, showing a large battery pack and orange high-voltage cables. The battery pack is composed of several grey modules. The car is displayed on a white platform in a museum or exhibition setting.

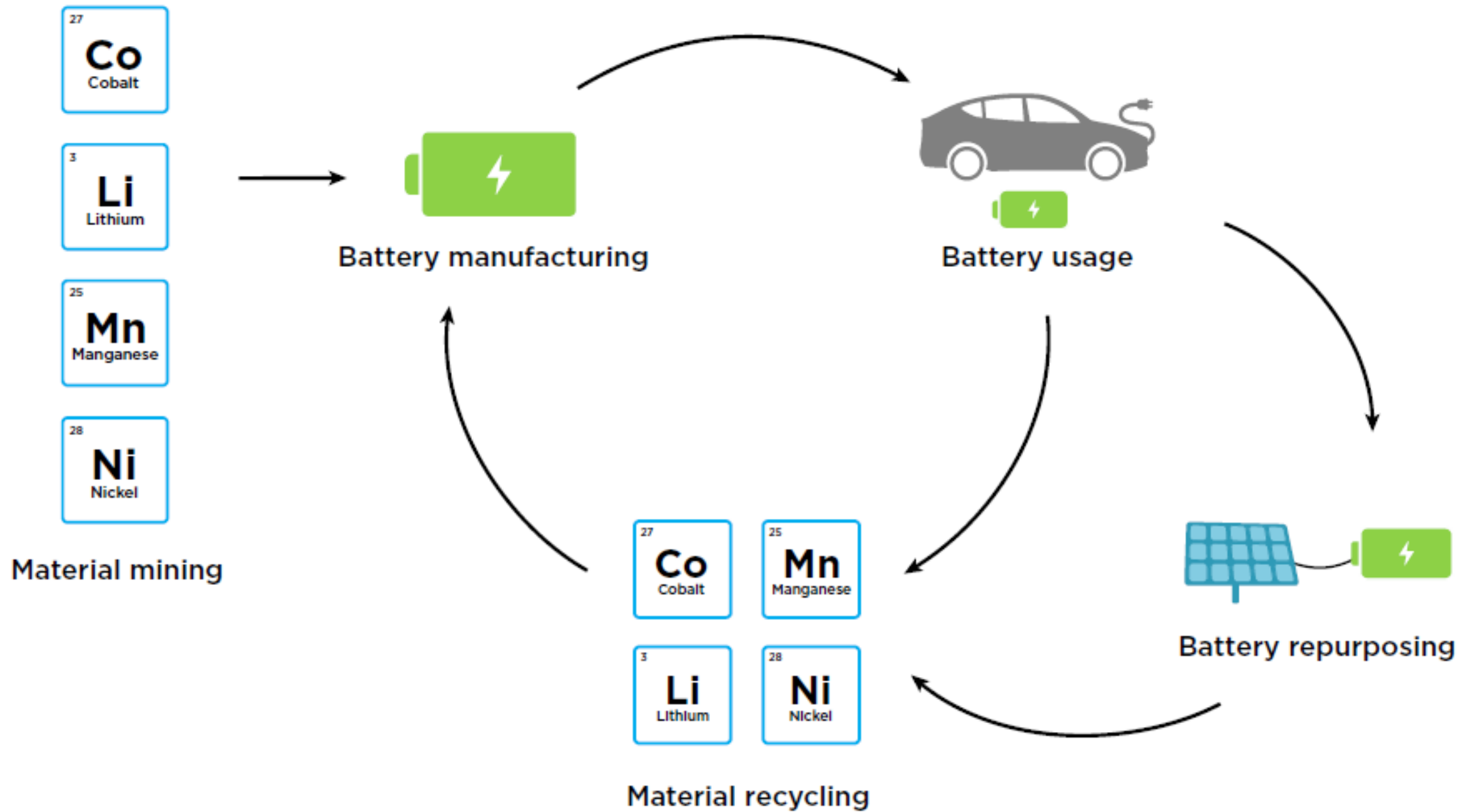
{ End-of-life management of large format batteries

Dr. Jessica Dunn
Union of Concerned Scientists

Union of
Concerned Scientists



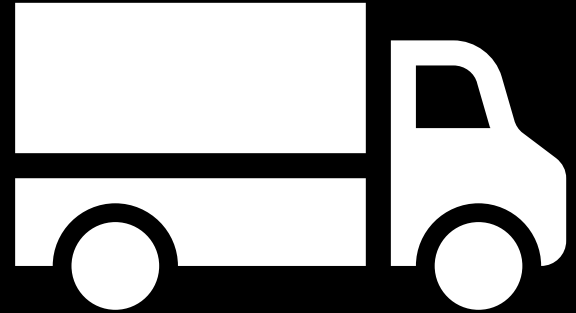
Large Format Batteries



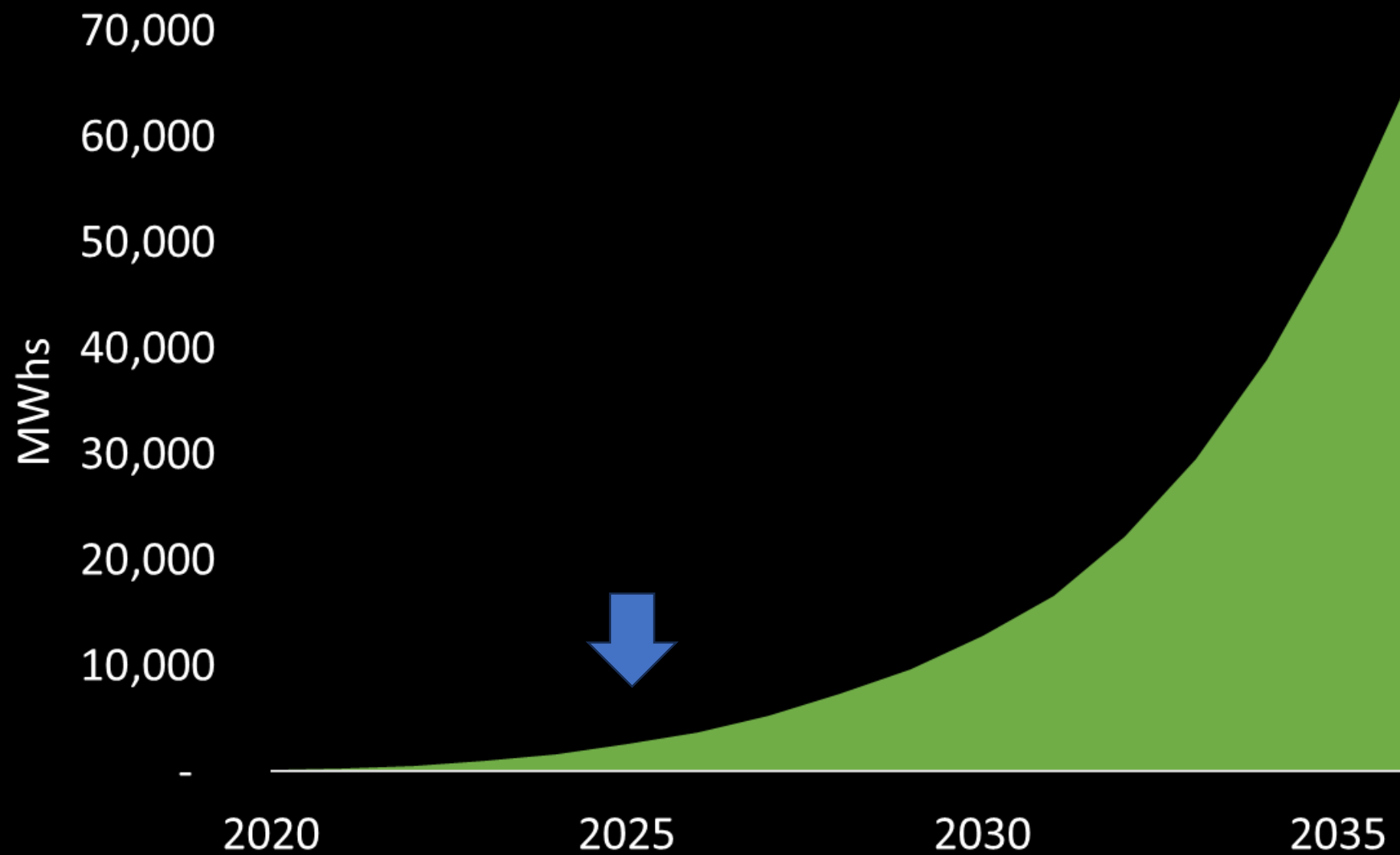
Key principles of end-of-life battery policy

1. Ensure batteries are collected and transported to a proper location for processing
2. Encourage safe reuse and repurposing of batteries
3. Use recycling processes that minimize environmental impacts and have a high rate of mineral recovery

**Ensure batteries are
collected and transported
to a proper location for
processing**



Passenger vehicle battery retirements in the US



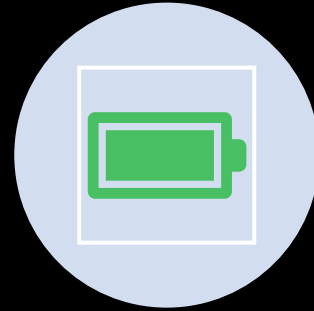
Sometimes there is a disincentive to recycle...



CONDITION



DISTANCE TO
TRAVEL



AMOUNT OF
BATTERIES
TRANSPORTED



CATHODE
CHEMISTRY

**Encourage safe reuse
and repurposing**





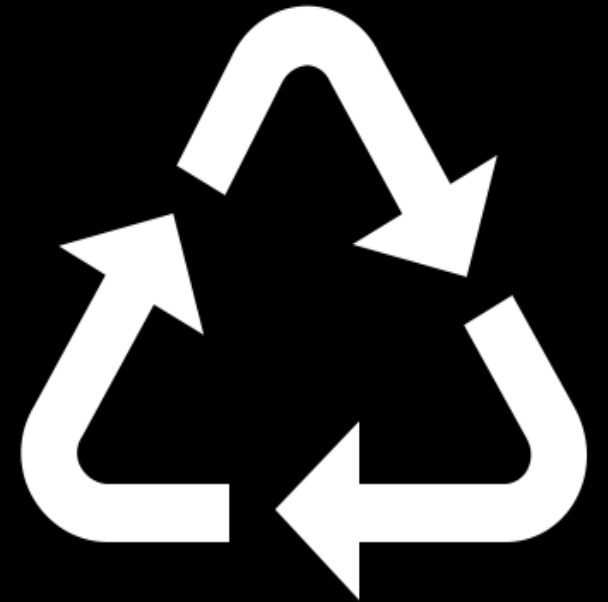
Source: CA Lithium-ion Battery Recycling Advisory Group report

Sharing information about battery history and condition creates a more efficient market

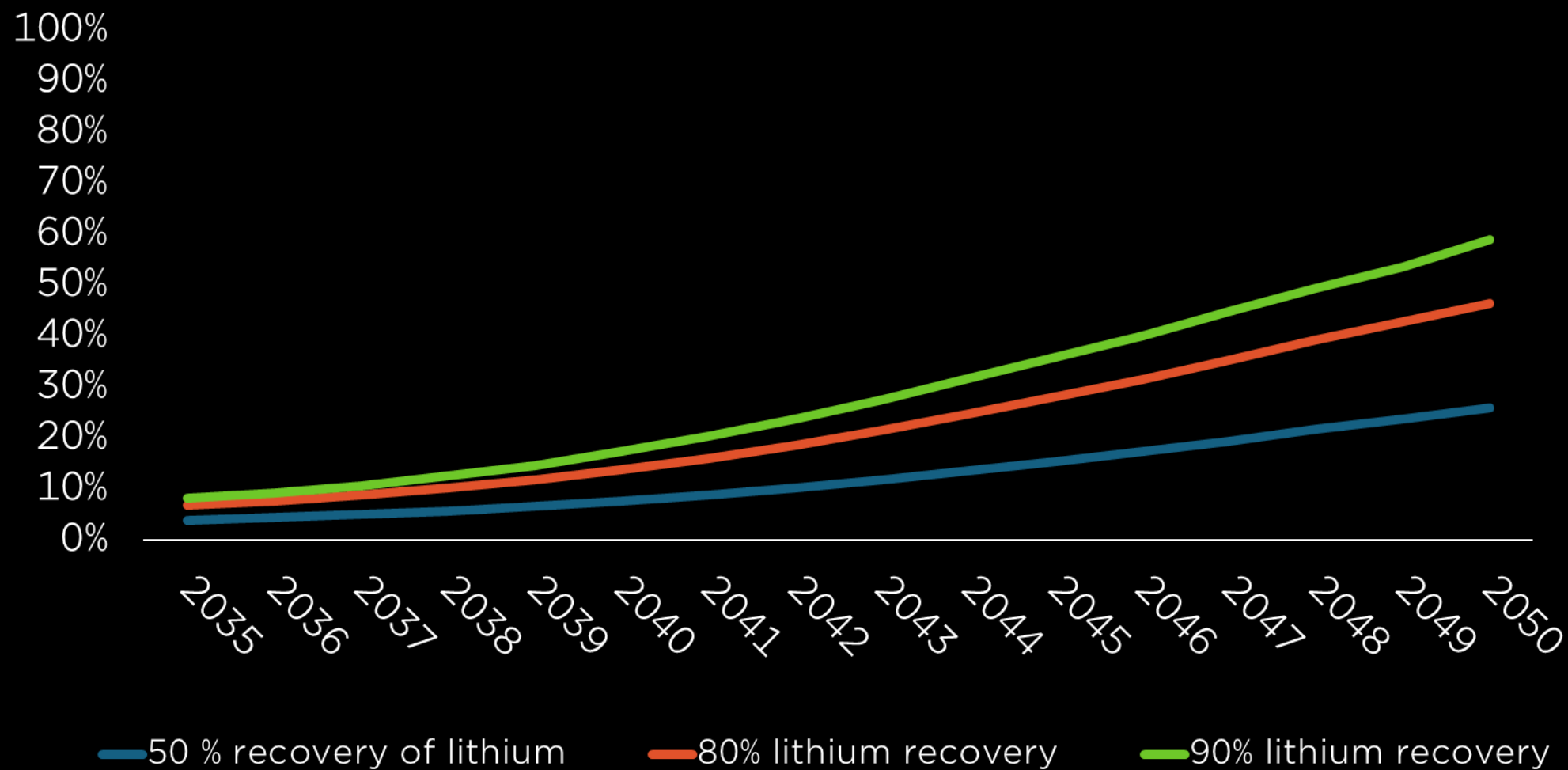


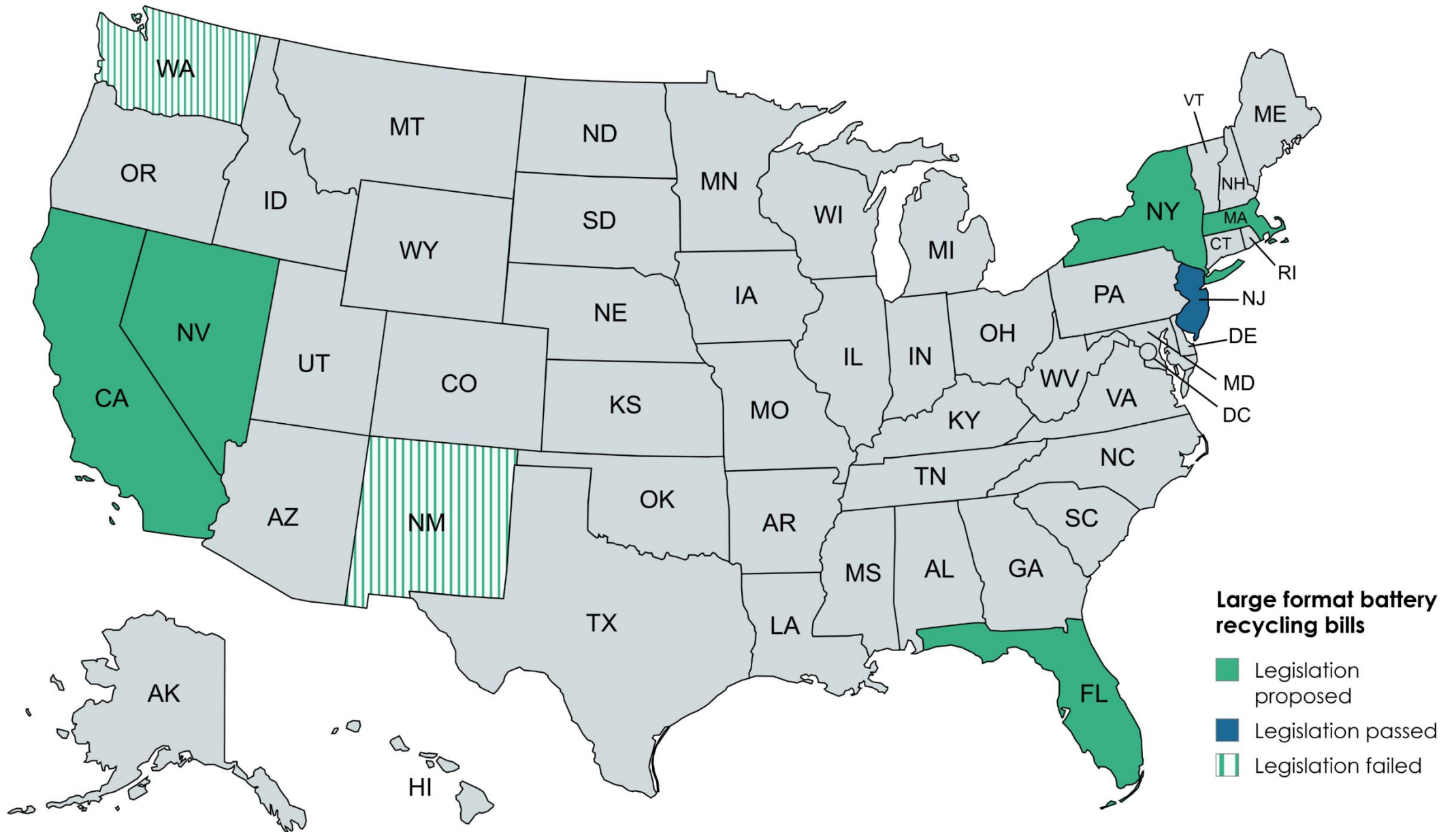
- Dismantlers can determine the battery value
- Companies that refurbish and repurpose batteries can make informed purchasing decisions

**Use recycling processes that
minimize environmental
impacts and have a high rate of
mineral recovery**



Percent of Lithium Demand Met by Recycled Content





Resources

- Large format EPR
 - Why do we need EV battery recycling policy? <https://blog.ucs.org/jessica-dunn/why-do-we-need-ev-battery-recycling-policy/>
 - Charting the electric vehicle battery reuse and recycling network in North America. (Slattery et al.) <https://doi.org/10.1016/j.wasman.2023.11.018>
- Refurbish and repurpose:
 - Battery Material Use Hierarchy (Auto Recyclers Association, Argonne National Lab): <https://www.a-r-a.org/latestnews/the-automotive-recyclers-association-releases-battery-material-use-hierarchy>
 - Battery State of Health – What is It? Why is It Important? <https://blog.ucsusa.org/jessica-dunn/battery-state-of-health-what-is-it-why-is-it-important/>
 - Should high-cobalt EV batteries be repurposed? Using LCA to assess the impact of technological innovation on the waste hierarchy (Dunn et al.) <https://doi.org/10.1111/jiec.13414>
- Recycling efficiency
 - Making the Most of Electric Vehicle Batteries: How recycling, innovation, and efficiency can support a sustainable transportation future (Dunn et al.) <https://doi.org/10.47923/2024.15617>
 - Electric vehicle lithium-ion battery recycled content standards for the US – targets, costs, and environmental impacts (Dunn et al.) <https://doi.org/10.1016/j.resconrec.2022.106488>

{ Thank You

Dr. Jessica Dunn

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Do you think it is important to have an EPR framework for large format batteries? Why or why not?

Wrap-up and Next Steps

Pat Tallarico, Facilitator, ERG Support Team



Upcoming EPA Battery Webinars and Next Steps

| Large Format Batteries | Meeting Topic | Meeting Date | Meeting Time | Format | Registration |
|-------------------------|--|----------------|------------------|---------|-----------------------------------|
| Labeling and Collection | Current Standards and Practices for Large Format Batteries | April 24, 2025 | 2:00–4:00 PM EDT | Virtual | Registration page |
| Labeling and Collection | Expanding End of Life Management for Large Format Batteries–Recycling and Refurbishing | June 17, 2025 | 2:00–4:00 PM EDT | Virtual | Registration page |

Email batteries@epa.gov if you have an interesting story to tell about battery EPR.

Questions & Answers from Webinar

Kelly Visconti, U.S. DOE and Kim Cochran, U.S. EPA

Are all the elements in the EPR framework voluntary?

Yes, the EPR framework will be voluntary and will provide guidance and insights on the various elements. IIJA required DOE and EPA to develop the framework, but did not provide statutory authority to make the EPR framework mandatory or conduct enforcement. DOE and EPA welcome feedback from participants on the voluntary nature of the framework. Please email batteries@epa.gov to share additional thoughts.

Both embedded and loose batteries are problematic. Will the framework address having all batteries be removeable similar to the EU?

Embedded and loose batteries are an important consideration and DOE and EPA will continue to gather input from experts on the current challenges and opportunities to addressing battery-containing products.

Questions & Answers from Webinar

Marc Boolish, PRBA

For reuse, would the producer of the battery accept their own brand to refurbish?

That is an option, depending on the program. For smaller batteries, it is not something normally done due to the large footprint in the market. For larger types, that is certainly an option due to a less complex supply system.

Are damaged batteries part of your program?

Damaged and defective are part of the program. Only recalled are exempted.

Can you elaborate on how a PRO would 'go after' producers not following the law?

Civil action.

Have Per- and polyfluoroalkyl substances (PFAS) been identified in batteries?

PFAs are in a number of batteries. Often, there is no suitable chemical alternative. Researchers are having conversations and have begun looking for alternatives.

Questions & Answers from Webinar

Marc Boolish, PRBA

Do you believe that obligations for OEMs for EV and ESS batteries should be removed during the battery life cycle under EPR programs?

If a battery is reused, refurbished, or remanufactured, this could, and in many cases is, done without any knowledge or recommendations from the original producer, so this may entail a change in responsibility.

What is the difference between the case that mid-format batteries come in versus embedded batteries?

There is a sleeve in an e-bike that holds the battery within a compartment. Some battery compartments are easily removeable, while others are not.

Questions & Answers from Webinar

Todd Ellis, Call2Recycle

Does Call2Recycle use an industry-wide website for small or medium format batteries for collection, and provide the difference on the resources page?

Call2Recycle has specific pages for medium format programs:

<https://www.call2recycle.org/hebattery/> and <https://www.call2recycle.org/ebike/>.

Our outreach and education brings people to the drop-off locator at www.call2recycle.org/locator, where you can toggle between different battery types.

How much does Call2Recycle charge a community to assist them in their proposed EPR plan, collection plan, and administering plan/reports? What battery chemistries does Call2Recycle accept?

If your state has an EPR law, we collect batteries under the approved plan at no cost to the collection site. The costs are covered by the obligated producers (i.e., manufacturers). We offer that free program for any batteries covered under the law, so if single-use batteries are included, then we cover both.

Questions & Answers from Webinar

Todd Ellis, Call2Recycle

Call2Recycle primarily focuses on small format batteries. Does it have any plans to address EV batteries?

Yes, Call2Recycle is working on that. There are a few programs that we're working on with EV original equipment manufacturers (OEM) and dealerships. Call2Recycle also has existing mid-format battery stewardship programs.

Do Call2Recycle collection sites accept rechargeable batteries?

Vermont requires its obligated producers to collect single-use batteries. If a state includes primary batteries in its EPR law, Call2Recycle will collect them.

What do you see as your biggest obstacles for collection programs at this time?

Changing consumer behavior is the hardest thing. There are so many different messages from so many different programs and businesses that we are competing with.

Questions & Answers from Webinar

Todd Ellis, Call2Recycle

Do the damaged battery kits used by Call2Recycle include Hazardous Waste Labels to cover RCRA requirements?

All of the DDR batteries that are shipped are managed as Universal Waste. If a battery is not able to be shipped as Universal Waste, it cannot be shipped via UPS or FedEx and thus requires special handling - these are managed as exceptions in the Call2Recycle network.

How does Call2Recycle handle cell phones, given that the Universal Waste Rule does not cover batteries contained in devices?

Consistent with EPA regulations and guidance, cell phones are collected as products. 100% of the phones that C2R collects are tested and evaluated for repair and reuse. All cell phones are then either physically or logically data sanitized. Phones that are unsuitable for repair and reuse are moved into waste streams.

Does Call2Recycle collect embedded batteries in items other than cellphones?

No.

Questions & Answers from Webinar

Carin Stuart, Call2Recycle (on behalf of Vermont Agency of Natural Resources)

Will Vermont only approve one PRO?

Vermont will approve multiple PROs, as long as the PRO follows the law.

Are there any curbside programs?

There are a small number of curbside battery collection programs, but most haulers want to keep batteries away from curbside programs because they could get crushed in trucks.

Are all primary batteries alkaline?

Primary battery chemistries vary and can include zinc air, carbon zinc, and lithium.

Are there specific risks in mixing alkaline and Li-ion batteries in the same deposit bin?

The majority of single-use batteries are alkaline and lithium metal. For safety in collection, the box includes a thermal liner to allow Call2Recycle to collect both battery types in a single container.

Do you know of any other EPR laws that address damaged and defective and embedded batteries?

The newer laws cover damaged and defective batteries, and some collection sites are trained to accommodate damaged and defective batteries. Call2Recycle is not aware of states with embedded battery laws.

Questions & Answers from Webinar

Megan Warfield, Washington State Department of Ecology

Can you tell us more about different producers called out in your law?

Washington State has a “waterfall definition” of producer. The definition first identifies the battery brand owner and then seeks out the retailer if Ecology cannot find the brand owner. For example, if an electronics brand that sells its products on Amazon is not in compliance, Ecology would contact Amazon, the retailer.

How might enforcement happen in your program or into the future?

Ecology has been having conversations with potential stewardship organizations. The PRO is expected to be the first one to make sure battery producers are participating in the EPR program, and then they would contact Ecology if more action was needed.

Distance is the largest obstacle to collection. Is there a strategy to motivate the public to make the effort to abide by a mandate?

We believe making it convenient (lots of collection sites) and easy (not having to differentiate between battery types) will remove barriers to public participation.

Do any states have embedded battery stewardship obligations?

California amended their existing e-waste law to address embedded products in an Advanced Recovery Fee program.

Questions & Answers from Webinar

Kent Holm, Douglas County, Environmental Services

Can you elaborate on the labeling aspect of the legislation?

The law will require manufacturers to include information on their batteries instructing consumers on how to recycle batteries. This labeling requirement applies to all covered batteries.

Safety is a big driver of EPR laws. Has Nebraska done any data collection around safety?

No. A lot of fires happen in situations where it is difficult to determine the cause of the fire. Many things can cause fires and it is important to prevent batteries from going to landfills, where they can cause fires.

Questions & Answers from Webinar

Jessica Dunn, Union of Concerned Scientists

What are your thoughts on separating EV and large format battery policies?

Most state policies with large format requirements mostly focus on EV batteries. A bill that focuses on the vehicle market and includes the stationary storage market could be helpful. While there are specific EOL dynamics that are different for EV and other large format batteries, there should be EPR for all large format batteries.

How would a national framework be helpful?

It is difficult for industry to have different policies and requirements in each state. For example, some states might ban the export of used batteries to recyclers overseas, while others may not. If each state creates different requirements, it can create an unevenness in the market.

How was the % recovery rate determined?

The methodology is part of this report: <https://www.ucs.org/resources/making-most-electric-vehicle-batteries>