SUPPLIERS PARTNERSHIP FOR THE ENVIRONMENT

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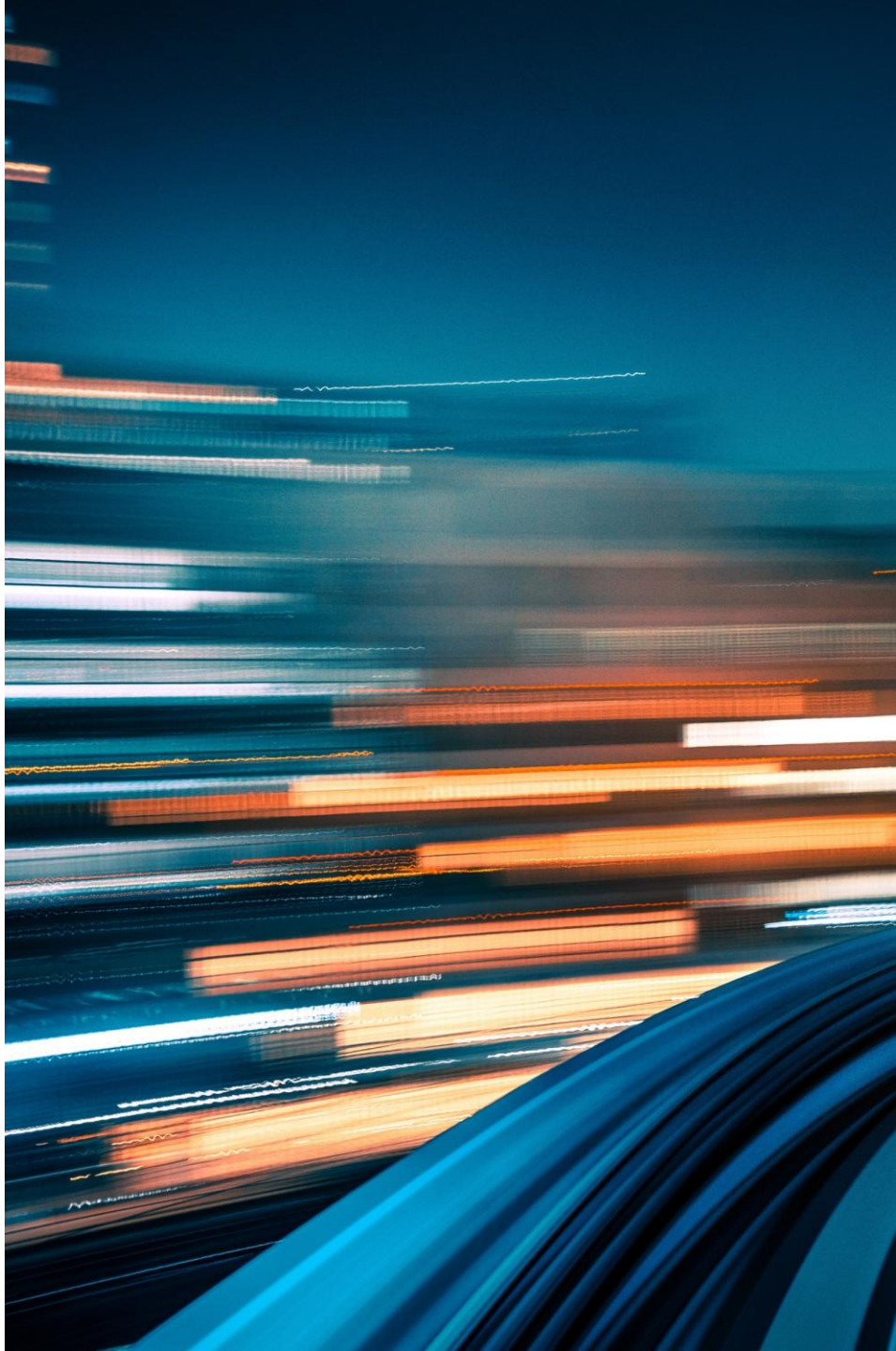
EV Battery Management

Summary of Current Practices & US State Policy Trends

Excerpt from SP EV Battery EPR Readiness Guidance Report: Developed for SP by Call2Recycle

Information Updated: March 2025



SP EPR Readiness For EV Battery Recovery Project Introduction

Suppliers Partnership for the Environment (SP) engaged Call2Recycle for a project to research, report, and recommend different program options and OEM readiness practices for regulated/non-regulated EV battery take-back programs.

The Q1 2025 Final Report included four deliverables:

1. EPR Readiness: Summary of Regulations Pertaining to Handling EV Batteries
2. EPR Readiness: Take Back Program Types and How They Operate
3. EPR Readiness: Principles & Internal Planning Checklist
4. EPR Readiness: Proceeding forward and recommendations to SP

This executive summary of current practices and policy trends is excerpted from the final report. The full March 2025 report is available only to current SP Vehicle Manufacturer members by request.

Q1 2024 – US, Canada, EU regulatory comparison

Q3 2024 – Individual OEM needs assessment for EPR readiness.

Q1 2025 – EPR Readiness Planning Guide

Research and report by:

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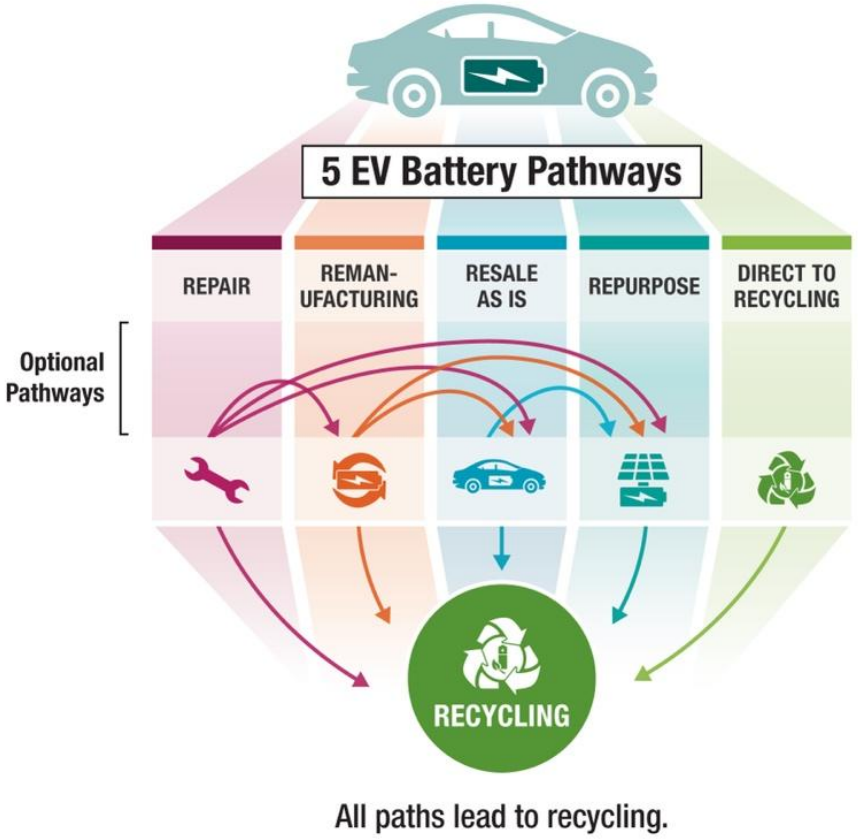
5 EV Battery Pathways

All equal and interchangeable



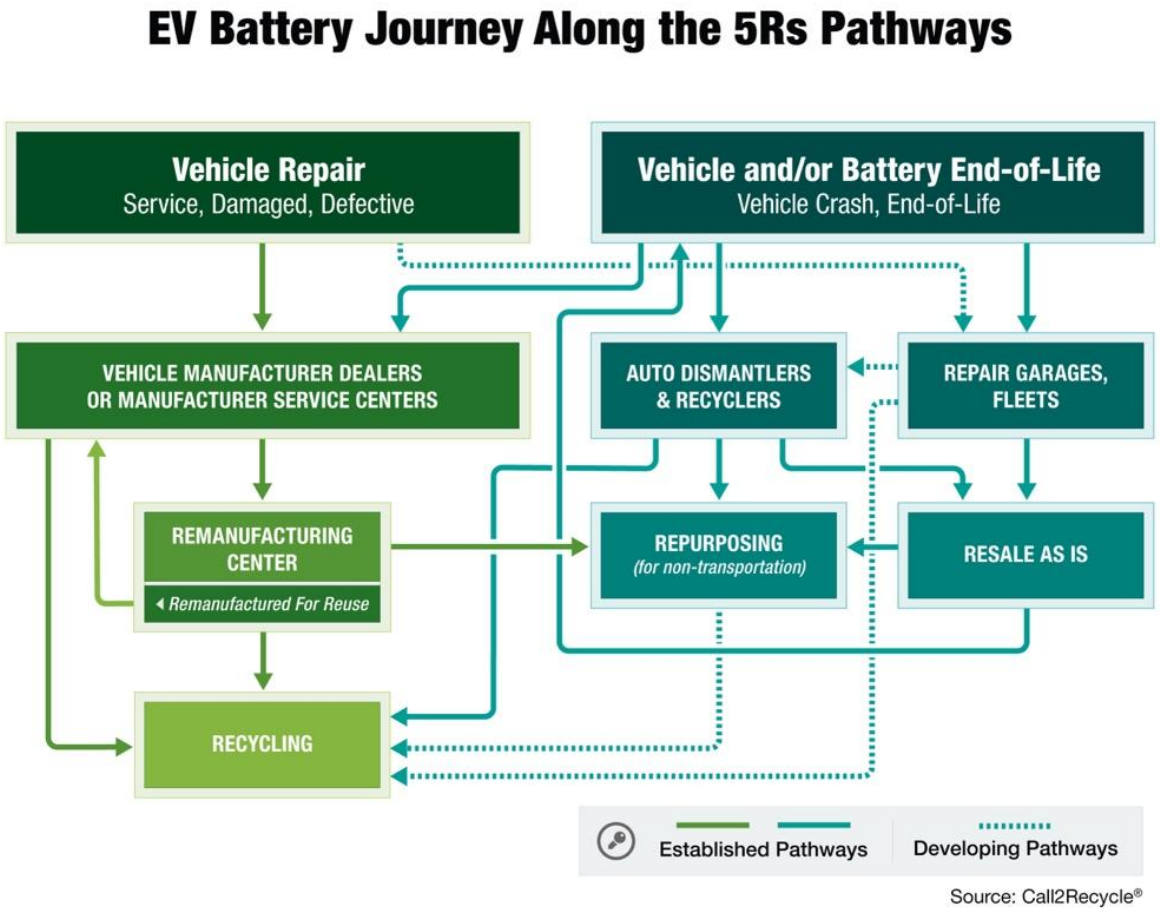
Source: Call2Recycle®

The typical environmental management hierarchy of ‘reduce, reuse, recycle’ is reconfigured with EV batteries. An EV battery may be directed to any of 5 possible pathways depending on the EV battery owner’s business model, processes, location of battery, health of battery, contracts on the battery, and value of battery.

The overarching goal is typically to prioritize extending the life of the EV battery through either repair, remanufacturing, reselling as is, or repurposing; and then recycling the battery when its entire working life is complete.

At the outset, all pathways are available options, and the battery will always move to the right, however it’s not hierarchical.

The EV Battery Journey Along the 5Rs

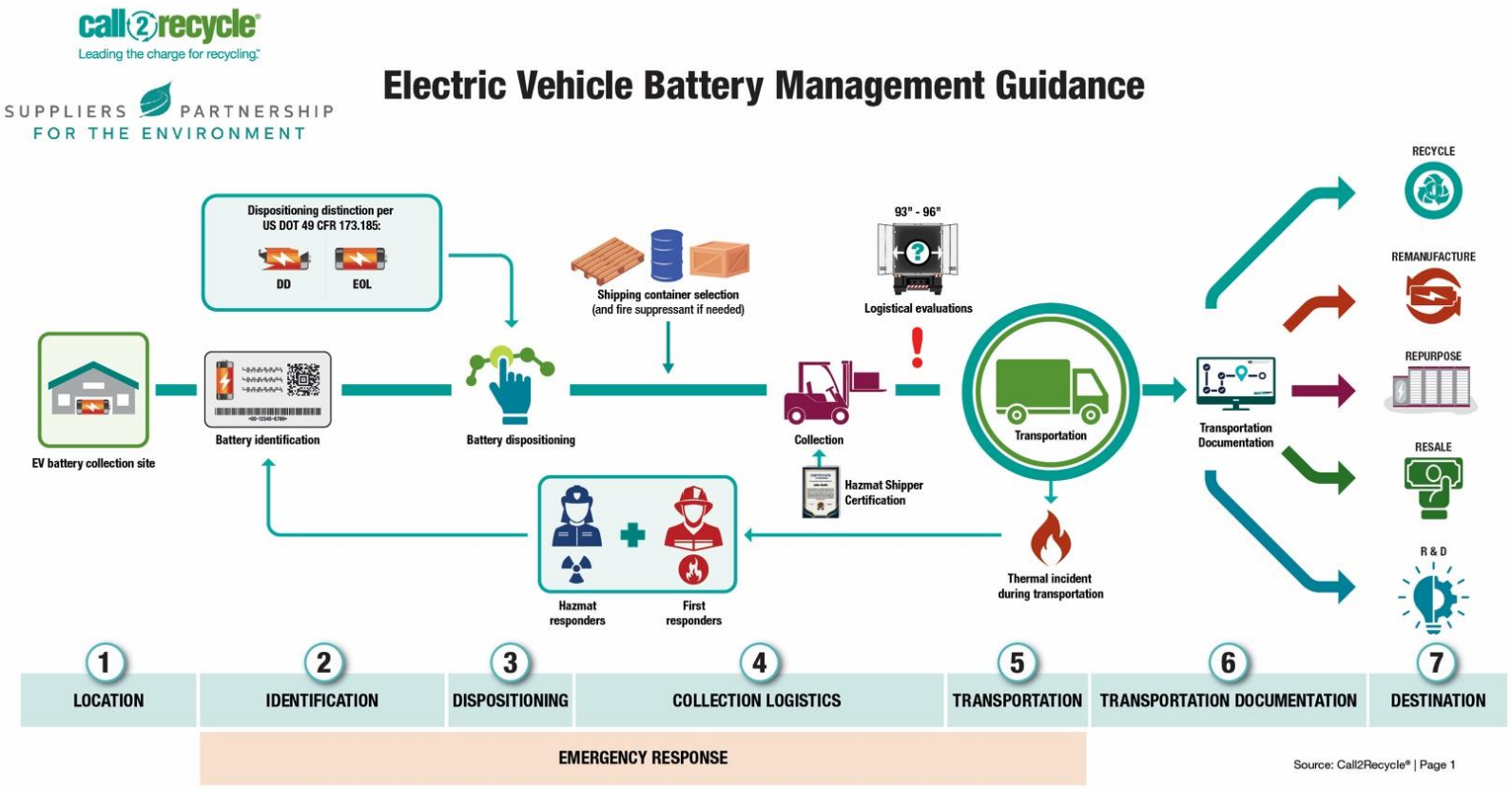


Batteries under warranty generally travel the left side of the industry workflow while out of warranty batteries most often are on the right side.

Lower economic value batteries are more likely to be found at auto dismantlers & recyclers or independent repair garages.

We can see where the 5Rs reside in this graphic: Repair, Remanufacturing, Resale as is, Repurposing, and Recycling.

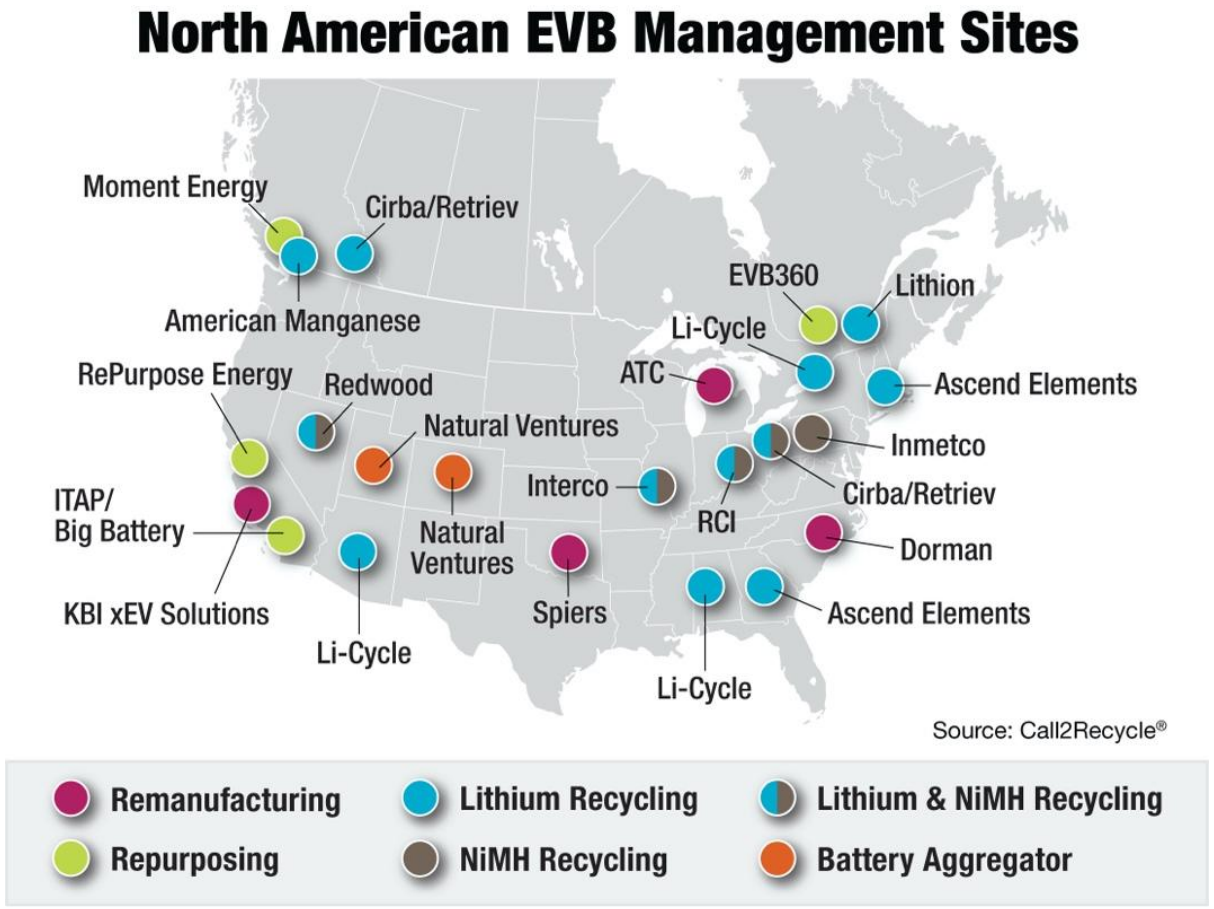
The 7 Steps of EV Battery Logistics



The workflow for collecting, transporting, and recycling an EV battery is generally the same and is governed by the 49 CFR 173.185 regulation in the United States.

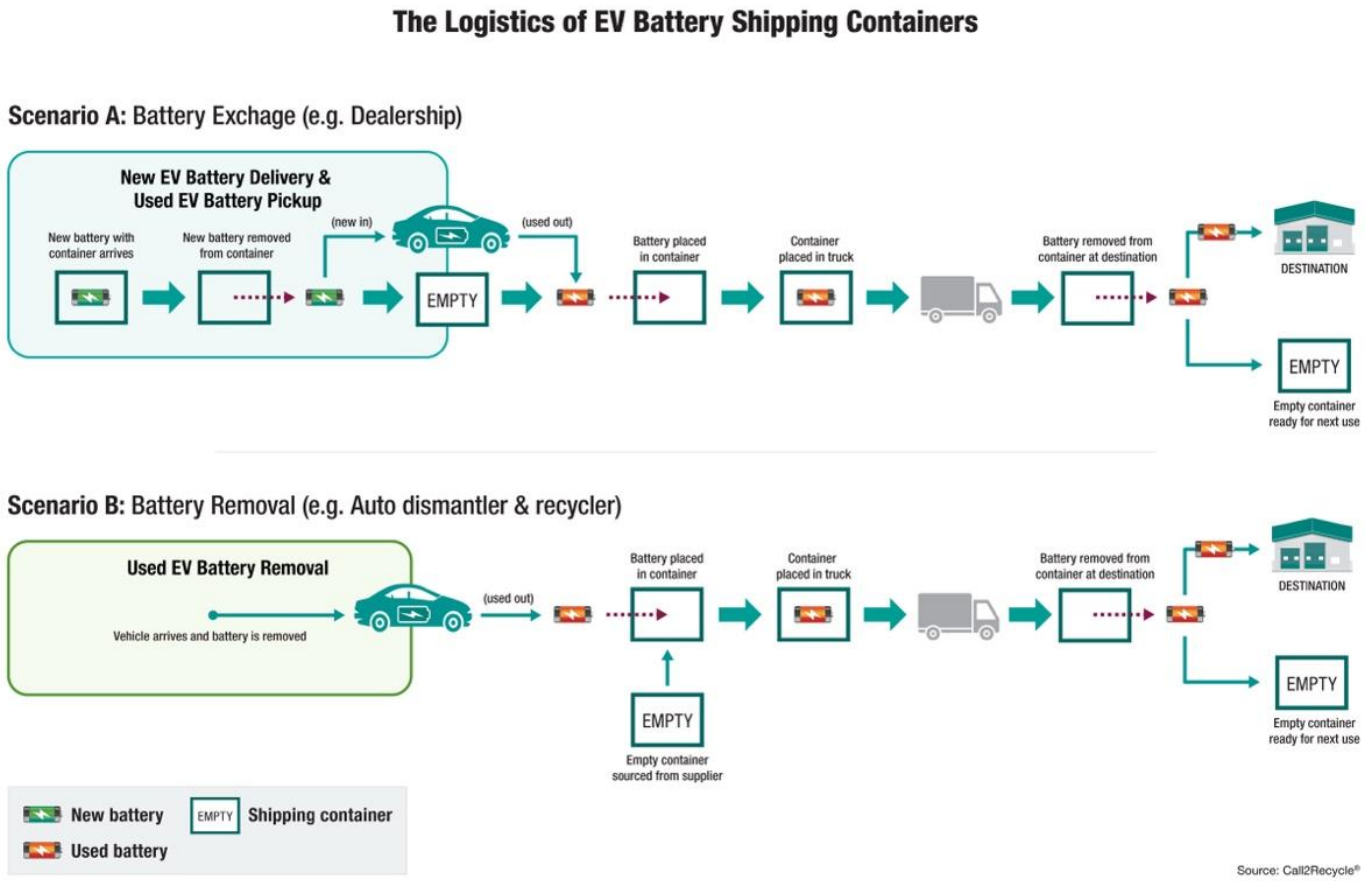
Download this and related infographics from SP's website.

North American EV Battery Management Sites



There are a good number of end-of-life battery management facilities already operating in North America in comparison to the volume of batteries in the market today.

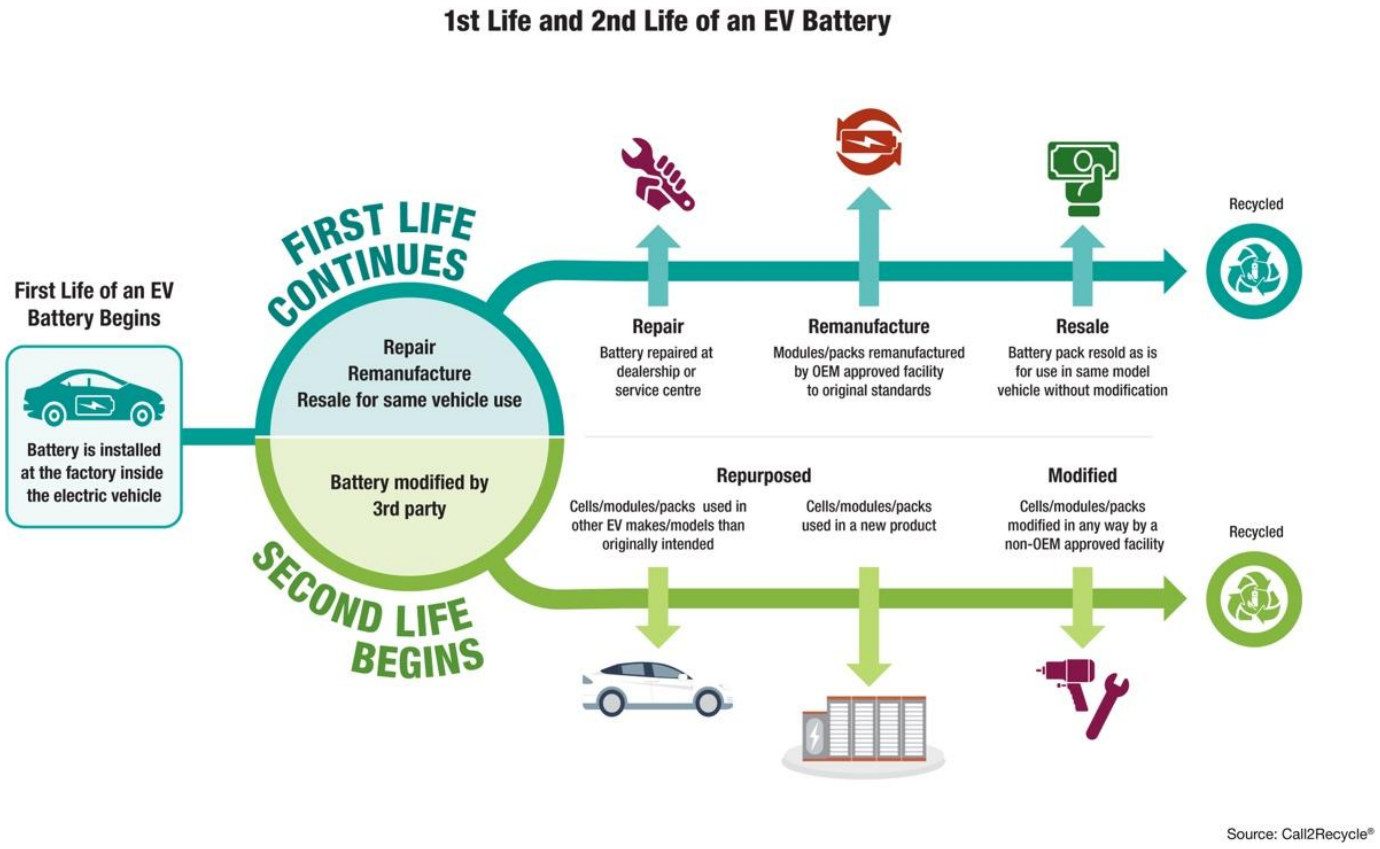
The Logistics of EV Battery Shipping Containers



Availability of containers to ship damaged-defective batteries must be considered, and that workflow differs between dealerships and auto dismantlers & recycler.

1st Life and 2nd Life of an EV Battery

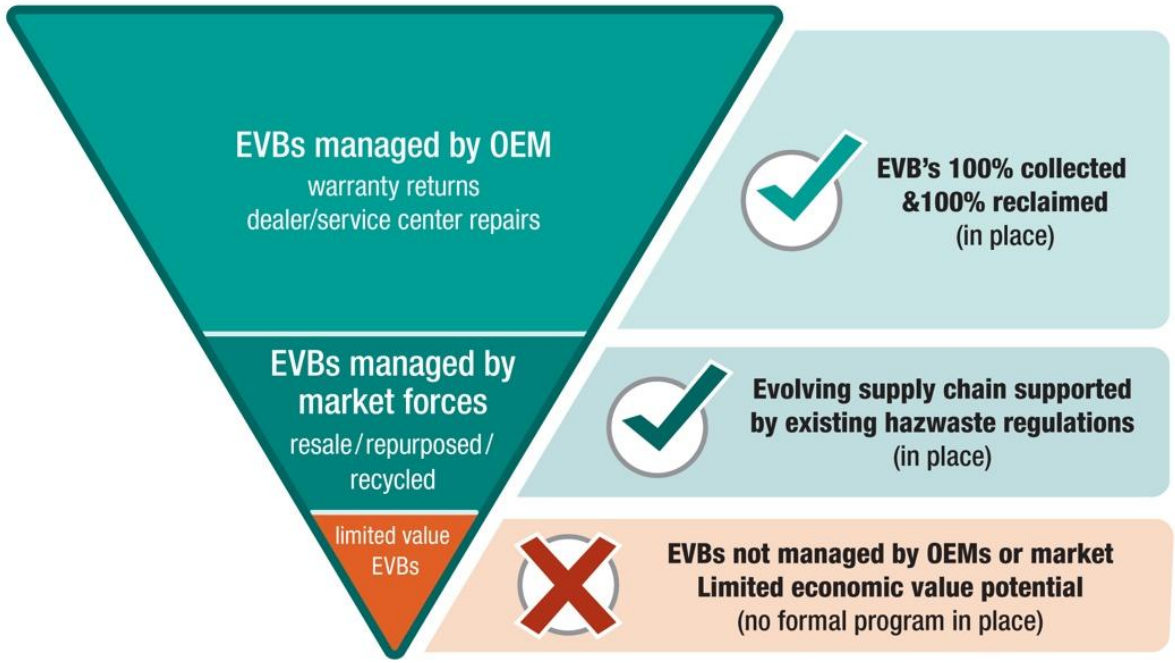
In 2nd life, the EV battery is an input material for a new producer.



It is important to delineate between batteries in their first life (OEM is the producer) vs. second life where the battery is an input raw material for a new product being placed on the market by a new producer.

EV Battery Management Programs

Current Management Programs for EV Batteries



Source: Call2Recycle®

Most EV batteries on the market in the United States today have established management programs and processes in place.

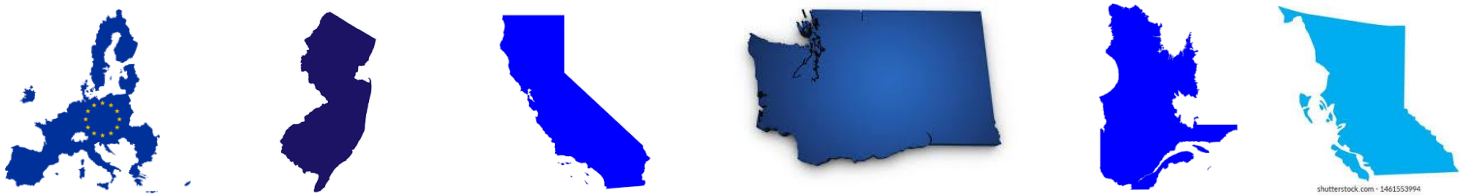
It is those with low economic value that may at times become unwanted (orange triangle in graphic).

An industry led pilot currently operating in Quebec, EV Battery Recovery ™, is designed to capture those low economic value batteries when needed.

Commonality in Policy Discussions and Enacted Regulations

EU, New Jersey, California, Washington, Quebec, and British Columbia policy discussions and enacted regulations have the following commonality:

1. **Policy solutions for low economic value / stranded batteries.**
2. **Battery labelling guidelines.**
3. **Discussions/clarity to entity responsible for 1st life vs 2nd life.**
4. **Disposal bans / recycling requirements.**



EU: Battery Directive Highlights

Carbon footprint	2.18.2025 EV's must have a "Declaration of Carbon Footprint".	2.18.2026 EV's must bear a label indicating the "carbon footprint class".	2.18.2028 EV's must "meet the promulgated carbon footprint threshold"
Recycled Materials content	8.18.2028 Declaration of recycled content accompanies EV battery.	8.18.2031 Minimum content levels 16% cobalt, 85% lead, 6% lithium and 6% nickel.	8.18.2036 Minimum content levels 26% cobalt, 12% lithium and 15% nickel.
Performance and Durability Requirements	8.18.2024 A document containing the electrochemical performance and durability parameter values accompanies the battery.	8.18.2027 Detailed information requirement regarding the performance parameters of EV batteries.	

The new EU Battery Regulations can be found at:
https://eur-lex.europa.eu/eli/reg/2023/1542/oj

Bebat has a summary of the EU regulations here.

EU: Battery Directive Highlights

Labelling	8.18.2025 Symbol for "separate collection"	8.18.2026 General information about batteries on battery labels	8.18.2027 Must carry a QR code
CE Marking	8.18.2024 The changes in the application of the CE marking apply from 18 August 2024.		
Duty of Care Obligations	8.18.2025 Due diligence rules for distributors with > $40M EUR/year.		
Battery Passport	8.18.2027 Implementation of battery passport.		

EU: Battery Directive Highlights

Extended Producer Responsibility	The producers of EV batteries will be obliged to organise the collection of all discarded batteries individually or through a producer responsibility organisation. The collection is free of charge for the end user and without obligation to buy a new battery. The producer takes the waste batteries for EV batteries off the end users or from accessible collection points in co-operation with distributors of these types of batteries, treatment, and recycling facilities for waste electrical and electronic equipment and for waste vehicles, government authorities, and third parties who carry out waste management on their behalf.		
Reuse of Batteries	Obligation for the producers of the EV batteries concerned to inform economic operators involved in the reuse about how to grant access to the data of the Battery Management System to review the condition ("State of Health") of a battery.		
Recycling of Batteries	12.31.2027 Recycling processes must be able to recycle at least 90% cobalt, 90% copper, 90% lead, 50% lithium and 90% nickel.	12.31.2031 Recycling processes must be able to recycle at least 95% for cobalt, copper, lead, and nickel and 80% for lithium.	

USA: Existing and Pending State Policy

State	Law / Reference Document	Status	Implementation Dates	Comments
CA	SB 615	Was introduced in 2024 and passed out of Senate but vetoed by Governor.	n/a	Governor vetoed bill based on disagreement that the state would be responsible for shouldering the burden of the administrative costs of implementing the bill.

SB 615 had these three top requirements:

1. Allows for the reuse, repair, repurpose and remanufacture of EV batteries along with recycling.
2. Battery suppliers and secondary users were responsible for funding the program and ensuring responsible end-of-life management of EV batteries.
3. The Department was responsible for setting up a central reporting mechanism for both battery suppliers and qualified battery recyclers to enter required data.

No new imminent bills forthcoming as of date of this document.

USA: Existing and Pending State Policy

State	Law / Reference Document	Status	Implementation Dates
NJ	New Jersey Electric and Hybrid Vehicle Battery Management Act	Signed into law January 8, 2024	Producers must register by 2/8/25 with the NJ DEP. Reporting requirements effective 1/8/26. Labeling requirements effective 1/1/27, disposal ban 1/8/27, and stewardship plan to begin 9/9/28.

Register here:
https://www.nj.gov/dep/dshw/swpl/ev-battery-management.html

USA: Existing and Pending State Policy

State	Law / Reference Document	Status	Implementation Dates	Comments
WA	Final Report. Submitted as part of the required study in SB5144.	The EV Battery Management Study Preliminary Report was published in October 2023. The final report was filed in April 2024.	n/a	The final report resulted in three recommendations: 1. Provide training, education, and resources to responders and automotive recyclers. 2. Determine who should have financial responsibility and liability. 3. Form a Washington State EV Battery Management Task Force.
	EV Battery recycling anticipated bill	Not introduced as of 1/14/25. Based on New Jersey battery bill. Expected to be introduced by Sen. Stanford and Rep. Street.	n/a	This bill is backed by Zero Waste Washington. This bill was also introduced in the 2024 session. This bill will not require a battery steward organization.
	SB 5045 2025-26 Bill to amend current portable & medium format law	Introduced in Senate, sponsors Wilson, Dozier, Christian, McCune, Holy, Boehnke, Schoesler	n/a	This bill would amend SB5144 and would add EV to certain sections. It will require a battery steward organization.

Bill did not move forward for 2025.

USA: Existing and Pending State Policy

State	Law / Reference Document	Status	Implementation Dates	Comments
HI	HI SB103 | 2025 | Regular Session | LegiScan	Establishes a two-year Electric Vehicle Battery Recycling and Reuse Working Group within the Hawaii State Energy Office.	n/a	Requires the working group to examine how to maximize the recycling and reuse of electric vehicle batteries and recommend electric vehicle battery management practices.

State	Law / Reference Document	Status	Implementation Dates	Comments
NY	NY State Senate Bill 2025-S5663	Introduced in Senate, sponsor Kavanagh	n/a	Requires a plan to be submitted but can be by individual producer.

Bill is not likely to move forward for 2025.

USA: Existing and Pending State Policy

State	Law / Reference Document	Status	Implementation Dates	Comments
NV, CO, NM, MA	Version 3 draft under development	Similar framework to NJ's EV bill but with the definition of a "specialized battery recycler" included.	n/a	Western Resources Advocates (WRA) is pursuing this legislation in all 4 states. As of 3/12/25 MA and NM have introduced bills.

1. Battery Providers are required to ensure the responsible end-of-life management of their batteries (which may be receiving them back from secondary handlers). Also requires annual reporting to the Department.
2. Requires Secondary handlers (those who repurpose, remanufacture, or reuse EV batteries) to manage EV batteries under the battery management hierarchy. If the battery is spent, they must return it to the battery provider
3. Only "Specialized Battery Recyclers" can process EV batteries. This excludes, by definition, any recycler that smelts.

Bills did not move forward for 2025.

EV Battery Management Principles

Based on EPR policy trends and experiences, examples of topics Call2Recycle identified as recommendations for the industry to proactively consider include:

1. **Clearly articulated delineation between 1st life and 2nd life responsibility.** The definition should be guided by the fact that EV battery packs/modules/cells are input materials to a new product assembled by a new producer who then puts it in the market, giving it a second life.

2. **Be mindful of narrow definitions for what type of entity can or can't be a battery recycler** based upon their technology. Ruling out existing operators may force batteries to travel further distances that could result in a higher carbon footprint across the lifecycle.

3. **Forced recycling in a given jurisdiction may prematurely shorten the life of a battery** or cause its recycling to be at a higher cost if that is not the highest value pathway for the battery.

4. **Be mindful of funding mechanisms that don't account for the battery's full value** in the supply chain. Most EV batteries on the market today have economic value and there are established market systems in place for removing and reselling EV batteries or providing them to other processors.

5. **It is important that there be clarity between the requirements of end-of-life battery collection policies and Universal Waste regulations when a battery enters the recycling pathway.**

6. **Avoid thinking of battery handling as a hierarchy** (eg: reuse, repurpose, recycle) given EV batteries travel any one of 5 pathways (repair, remanufacture, resale as is, repurpose, recycle) that are all equally viable and interchangeable depending on the health, location, value, ownership, and warranty status of the battery.

Conclusion

SUPPLIERS PARTNERSHIP FOR THE ENVIRONMENT

This executive summary of current practices and policy trends is intended to support education within the automotive value chain on preparing for EV battery management policy trends. This summary is excerpted from a broader EPR Readiness Project report developed for SP by Call2Recycle. The full March 2025 report is available only to current SP Vehicle Manufacturer members by request.

SP members may contact info@supplierspartnership.org for more information.

Disclaimer

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