Powering a Second Life: Unlocking the Business Case for Battery Repurposing

By: Marie McNamara, Rocky Mountain Institute

Abstract

Transitioning from a linear “take-make-dispose” battery model to one built on reuse, repurposing, and recycling is vital for capturing maximum value across a battery’s life. While recycling is essential, a more immediate economic opportunity lies in repurposing batteries in their original form, before they are broken down. Keeping the battery’s form factor intact for as long as feasible maximizes residual value. In fact, reuse, repurposing and recycling should be viewed as sequential steps in a layered circular system. Battery circularity focuses on maximizing value across a battery’s lifecycle through three primary pathways: reuse, where batteries continue operating in their original mobility applications; repurposing, where batteries are adapted for secondary uses such as stationary energy storage; and recycling, where materials are recovered through physical or chemical processing for use in new batteries or other products.

In electric vehicles (EVs), batteries are often replaced once their state of health (SOH) drops to around 80% to preserve driving range. Yet even at that stage, they retain substantial capacity and energy throughput potential. By disassembling, repairing, and reconfiguring these “end-of-vehicle” batteries, they can serve secondary roles, such as stationary storage. Although energy throughput and charge/discharge efficiency decline, oversizing the pack enables reliable performance even with lower SOH batteries.

This paper will specifically focus on the economic potential of repurposing batteries. Second-life batteries represent a value recovered from what would otherwise be scrap, offering a clear residual value gain and an arbitrage opportunity with a 30–40% margin. The business model is relatively straightforward: refurbishers collect used batteries, disassemble and test them, replace degraded components, and then reassemble the batteries for continued use.

While this emerging market holds strong potential, its growth depends on regulatory and policy support. Governments can help shape demand, lower entry barriers, and enable the safe repurposing of batteries. Moving from pilots to a functioning second-life market will require coordinated action across four key pillars:

- Circular by Design: Promote designs that enable easy disassembly and secondary use through standardized, modular formats and cell innovations that improve interchangeability and flexibility.
- Diagnostics: Develop specialized labs and testing infrastructure to accurately assess state of health (SOH), remaining useful life (RUL), and thermal performance across battery chemistries and configurations.
- Data Access: Ensure authorized refurbishers can securely access key battery management system (BMS) by establishing minimum data-sharing standards and encrypted platforms, strengthening traceability and buyer confidence.
- Collection and Logistics: Invest in reverse logistics infrastructure and formalize collection networks.

Introduction and Motivation

While many technologies will shape the future of clean energy and electrification, batteries will be among the most critical. The advancement of vehicle electrification and the growth of solar-plus-storage projects will depend heavily on the availability and cost competitiveness of batteries. This future is not only about producing more batteries, but it is also about using them more efficiently and effectively. Global EV battery demand is projected to triple by 2030, reaching 3 TWh.[1] In the United States there has been a significant increase in EV sales this decade alone. In 2020 EV sales were just 1.6% of the new vehicle sales share, in Q3 2025 EV sales reached nearly 12%.[2] Although the EV tax credit under the Inflation Reduction Act expires in Q4 2025 likely leading to tempering U.S. EV sales in quarters to come, global EV markets are expected to continue growing. In markets like India, EVs are expected to account for nearly 80% of total battery demand by 2035.[3]

Focusing on the repurposing potential of EV batteries is particularly strategic because global demand for EV batteries is rising rapidly, and EV applications place unusually high performance demands on batteries, including strict limits on weight and space and the need for liquid cooling. In EVs, batteries are typically replaced once their state of health (SOH) falls to around 80% to preserve driving range, even though they still retain substantial usable capacity and energy throughput. Upon reaching this threshold and needing to be replaced and EV battery can follow three primary lifecycle pathways it can be reused, recycled or it can end up in a landfill.

This paper argues that repurposing should be considered first, as EV batteries that retain significant capacity can often be adapted for less demanding secondary applications. If repurposing is not feasible, batteries can be sent to recycling facilities where valuable materials are recovered. Battery recycling relies on three main approaches: pyrometallurgy, which involves smelting batteries at high temperatures; hydrometallurgy, which uses chemical leaching to extract metals such as lithium, nickel, and cobalt; and direct recycling, an emerging set of technologies and processes that aim to preserve and restore cathode materials for reuse rather than breaking them down into constituent metals.

The ability to repurpose or recycle a battery depends first on the ability to collect it at end of life, and collection systems vary widely by country. In the United States, used batteries are often classified as hazardous waste, making collection and transport cumbersome and costly. In emerging economies such as India, battery collection largely occurs through the informal sector, which makes it difficult to ensure consistent, safe, and reliable handling, valuation, and sorting of used batteries. Collection itself can be logistically challenging. As a result, while not ideal, some batteries can still end up in landfills due to gaps in collection systems and high recycling costs.

How battery chemistry impacts the lifecycle trajectory of a battery

Today’s EV battery market is dominated by nickel-manganese-cobalt (NMC) and lithium iron phosphate (LFP) chemistries, with LFP batteries becoming increasingly prevalent and expected to remain so. LFP batteries accounted for nearly half of global EV battery sales in 2024 and offers the most favorable cost outlook.[4] In India and China, two of the world’s largest

EV markets, LFP batteries already make up more than 75% of EV battery sales, a share projected to continue growing over the next decade.[5]

Battery repurposing is particularly important for LFP batteries, which contain fewer high-value metals than NMC chemistries, making recycling alone less profitable. Material composition therefore plays a critical role in end-of-life economics: chemistries such as NMC, with higher-value materials like nickel and cobalt, generate greater recovery revenues, while lower-value chemistries depend on scale and cost reductions to become economically viable as recycling volumes grow. This makes it even more critical to repurpose LFP batteries before they reach end of life to maximize value retention and promote circularity. By extending a battery's useful life beyond its automotive application, repurposing helps reduce pressure on critical mineral supply chains and reduces the environmental footprint of manufacturing new cells.

The practice of battery repurposing is the focus of this paper, and it will describe the economic justification for battery repurposing and examine emergent international best practices that can support the emergence of the repurposing market. Ultimately, repurposed batteries represent an arbitrage opportunity: they enable recovered value to be generated from assets that would otherwise be treated as scrap, improving resource efficiency while creating new economic value.

About Battery Repurposing

When batteries no longer meet the performance or safety requirements of vehicles but still hold roughly 70–80% SOH, they become strong candidates for repurposing into less demanding applications, such as stationary energy storage. Although energy throughput and charge–discharge efficiency decline at this stage, these batteries can still perform effectively in second life uses such as backup power systems or rural microgrids. Properly sizing or oversizing the storage system enables lower-SOH batteries to meet energy needs reliably. While not every battery can be repurposed, evaluating a battery for this potential maximizes value by extending its functional life. It can replace a portion of the demand for new batteries.

Repurposing typically requires disassembling an EV battery pack and reconfiguring its modules or cells into a new arrangement suited for another application, such as stationary energy storage. This process involves assessing degradation, evaluating the condition of key components, and determining the level of intervention needed to use a battery in an additional application. Repurposing potential ultimately depends on how the battery has degraded during its first life. The type and extent of degradation determine both the safety and the financial viability of any second-life use.

Battery degradation is complex because lithium-ion cells deteriorate through several overlapping mechanisms. Chemical aging occurs as internal side reactions, such as lithium plating, reduce usable capacity. Thermal stress accelerates these reactions, and extreme heat can break down materials or even trigger thermal runaway, an uncontrollable overheating event. Mechanical degradation results from vibration and the expansion–contraction cycles that occur during charging and discharging. Electrical stress, including overcharging, deep discharging, or frequent fast charging, increases internal resistance and reduces efficiency.

Environmental exposure to moisture, dust, or poor enclosure design can further degrade performance.[6] Together, these factors contribute to capacity fade: the battery stores less energy and delivers lower performance than when new. Measuring the state of degradation and the remaining efficiency of a battery is essential for determining whether it is suitable for another application.

Once degradation is assessed, the necessary physical modifications and electrical rewiring can begin. Battery repurposing typically involves disassembling an EV battery pack and reconfiguring its modules or cells into a new system suited for a different use case, such as stationary energy storage. In practice, three main types of interventions, repair, refurbishment, and reconfiguration, play distinct roles in preparing batteries to safely and effectively enter a second life.

- Reconfiguration involves adjusting or rewiring modules or packs to change voltage, capacity, or physical format. This is often necessary when the original EV-oriented electrical layout no longer suits the new application.
- Repair focuses on replacing failed cells or components, such as connectors, sensors, fuses, or thermal elements, to restore function. It is appropriate when only specific parts of a pack have degraded while the rest remain usable.
- Refurbishment encompasses software resets, recalibration, and system updates needed to align the battery with a new operating environment. This may include reprogramming the building management system (BMS), resetting communications, or performing firmware updates to ensure accurate state-of-health reporting and safe system integration.

In summary, reconfiguration, repair, and refurbishment are distinct but overlapping processes that address the physical, electrical, and software requirements for preparing a battery for extended or second-life use. The degree of modification determines the labor and cost associated with preparing a battery for continued use.

This paper examines the current state of the battery repurposing ecosystem. It outlines the technologies enabling second-life battery use, evaluates the evolving business case, and the applications and market trends that will impact the proliferation of battery repurposing. The motivation behind this work is simple: the full value of EV batteries is not being captured, particularly LFP batteries, whose useful life often extends well beyond their automotive applications.

Current State of the Technology Industry Uses

This paper argues that battery repurposing technology spans three distinct domains: (1) battery and pack design characteristics that determine ease of disassembly, (2) diagnostic capabilities that evaluate performance and safety, and (3) reconfiguration and integration techniques that adapt batteries to new applications.

Design for disassembly is foundational to enabling viable and scalable second-life battery applications. This market assessment examines three critical elements of battery design that directly influence how easily a battery can be opened, inspected, tested, and reconfigured for continued use.

Battery packs rely on numerous joints to secure cells, modules, and protective casings. These joints can be created through a variety of methods, such as adhesives, laser welding, ultrasonic welding, crimping, screws, or bolts. Adhesives and welded joints create strong mechanical bonds but significantly hinder disassembly because they require destructive, and at times manual, techniques to remove. By contrast, mechanical fasteners such as screws, clips, and bolts are far more disassembling, enabling cells or modules to be removed, tested, and replaced without damaging the surrounding structure.[7] The choice of joining technique plays a major role in determining whether a battery can be economically repurposed or is better suited for direct recycling.

Greater standardization in cell formats, prismatic, cylindrical, or pouch, simplifies sorting, handling, and integration into second-life applications. When manufacturers use proprietary cell geometries or customized module layouts, repurposers face additional labor, testing, and engineering effort to integrate those cells into new configurations.[8] Standardized formats improve interoperability across systems and make it easier to design second-life products that can accommodate a predictable set of cell characteristics. In short, the more consistent the cell design, the lower the barriers to repurposing.

Repurposers need accurate information about a battery’s internal architecture, chemistry, and materials to assess safety, residual value, and optimal second-life use cases. Improved transparency, through digital records, onboard data logs, or design documentation, enables more sophisticated diagnostics and can reduce uncertainty.[9] Initiatives like the UN Battery Passport aim to standardize the reporting of battery materials, chemistry, and carbon footprint.[10] As adoption grows, these tools can meaningfully streamline repurposing by giving second-life operators reliable insight into a battery’s composition.

Diagnostics: Assessing battery degradation is typically done through three approaches: model-based, AI-driven, and hybrid. Model-based diagnostics use physics and electrical measurements, such as impedance, voltage, and current response, and apply equivalent circuit models that represent the battery as a set of resistors, capacitors, and voltage sources to model and inform how the genuine battery has degraded. AI and other data-driven methods analyze time-series data (voltage, current, temperature, and charging/discharging patterns) to identify trends and estimate battery health.[11] Hybrid approaches combine the two, using physical models to maintain predictable, physics-consistent estimates, while machine learning captures subtle, real-world patterns that reveal how the battery is actually aging.

For AI-driven diagnostics to work, access to battery data is essential. The industry increasingly prefers AI-based approaches because they are more scalable and easier to automate. Whereas purely model-based diagnostics require physical electrical measurements, which pose a place-based challenge, and they can be slower and more resource-intensive.[12] However, this shift depends on one crucial enabler: access to high-quality, usable data from the Battery Management System (BMS).

A BMS continuously monitors key parameters, such as voltage, temperature, current, and cell balancing, to ensure safe and efficient operation. This information is critical for diagnostics, lifecycle assessment, and determining whether a battery can be repurposed. Yet BMS data is rarely retained or made accessible, and high-resolution time-series data on charging and discharging patterns over a battery's lifetime is seldom stored. Automakers are often reluctant to share BMS data, viewing it as proprietary intellectual property. However, to scale repurposing, authorized refurbishers need access to this information; without it, batteries cannot be properly diagnosed and must essentially be reprogrammed for second-life use. Secure, encrypted data-sharing solutions that balance privacy and access are therefore essential to enabling technological progress and unlocking growth in the diagnostics ecosystem.

Repurposing: Physically altering an EV battery for a secondary application, such as a battery energy storage system (BESS), introduces several engineering challenges, as highlighted in the literature. The first major hurdle is thermal management. EV packs are often engineered with sophisticated liquid-cooling systems designed for rapid cycling and high-power acceleration.[13] Stationary storage, by contrast, often uses air cooling or other thermal pathways. As a result, the original thermal design is not always suitable for BESS applications, requiring cooling systems to be frequently adapted, replaced, or redesigned altogether.

A second challenge lies in the electrical reconfiguration required for new applications. EV packs are optimized for specific voltage ranges, power demands, and discharge profiles that differ significantly from grid-connected storage. Stationary systems may require a different voltage, altered current limits, or a more flexible cycling pattern. Reconfiguration often requires rewiring modules, adjusting the series/parallel layout, adding or removing cells, and modifying the battery's overall architecture to align with the new application's requirements.

The third barrier is BMS compatibility. Most EV packs use proprietary battery management systems that are tightly integrated with the vehicle's software ecosystem. These systems typically cannot communicate directly with stationary storage controls. Repurposing, therefore, may require BMS reprogramming, firmware updates, or even a complete BMS replacement to ensure the battery accurately follows safety protocols and operates reliably in its second-life configuration.

This overview of current technologies highlights why battery repurposing is promising yet operationally complex, and why progress in diagnostics, thermal adaptation, BMS interoperability, and standardization will be essential to scaling second-life battery markets.

Technical Approach

This paper employs a cost- and economics-based modeling framework to assess the economic potential of battery repurposing and its ability to compete with new lithium-ion batteries. Because the repurposing market remains nascent, with limited public data and few standardized benchmarks, the analysis draws on expert input, interviews, and a structured stepwise modeling approach. The work is anchored in a case study of India, a particularly relevant geography for the proliferation of repurposing given the country's rapid growth in EV adoption, steady expansion of stationary storage demand, and growing stock of used EV batteries.[14] Together, these dynamics form a meaningful setting for examining the economics and scalability of second-life battery applications.

To evaluate second-life performance, the model incorporates the technical requirements of stationary-energy-storage applications, which differ substantially from those of first-life automotive use. Market interviews with repurposing companies, recyclers, and stationary-storage integrators consistently noted that repurposed EV batteries must meet minimum energy-throughput requirements comparable to those of new systems. Because most end-of-first-life batteries enter the repurposing stream at roughly 80 percent State of Health (SoH), they deliver less usable energy per cycle than new batteries. In addition, stakeholders highlighted that repurposed batteries continue to degrade during their secondary use and that customers typically expect an additional 3 years of reliable operation from a second-life system.

The prices at which repurposed batteries can be sold are estimated using BloombergNEF's long-term battery pack price projections.[15] To calculate the realistic market value of a repurposed battery based on new-battery prices, the model applies to two key adjustments. A degradation adjustment and a market willingness-to-pay discount. A degradation or oversizing adjustment reflects the additional installed capacity needed for repurposed batteries to deliver the same usable energy as new systems; this is modeled using a factor of 1.67. This factor was applied as batteries need to deliver the same usable energy throughput as new stationary systems to compete in the market. This means that additional installed capacity is required to compensate for both the initial capacity loss and the ongoing degradation over the three-year second-life period. The oversizing factor, therefore, reflects a combination of empirical industry practice and forward-looking technical requirements. An additional factor is then applied to account for lower buyer confidence in used batteries, requiring repurposed systems to be priced below new ones to compete in the market. This willingness-to-pay discount is assumed to be 30 percent in 2025, declining to 10 percent by 2040 as testing, certification, and market maturity improve. The modeled prices that repurposed can realistically fetch in the market are listed in Table 1.

Table 1: Repurposed Lithium-ion battery forecasted pack prices

	Derived Price (2025)	Expected Price (2040)
Repurposed Lithium-ion battery pack prices	48 $/kWh	28 $/kWh

Repurposing costs are divided into three main components: collection, disassembly and diagnostics, and reassembly. Collection costs, benchmarked per tonne of batteries and converted to a per-kWh basis, capture logistics, aggregation, and safe transport of used batteries. Disassembly and diagnostic costs include safe pack opening, state-of-health testing, screening, labor, and safety infrastructure. Reassembly costs cover all bill-of-materials components required to prepare batteries for stationary storage, including new battery-management systems, wiring, thermal systems, structural housing, and replacement cells. Based on learning rates observed in comparable markets, such as lithium batteries, each cost component was forecast to decline over time at a 10 percent log-linear rate applied to cumulative repurposed volume, mirroring established cost reductions in adjacent sectors. All costs are expressed in USD per kWh for comparability, as shown in Table 2.

Table 2: Battery Repurposing Cost Breakdown

Cost Element	Derived Cost (2025)	Expected Cost (2040)
Collection Costs: Benchmarked per tonne of collected batteries, converted using energy densities (kWh/kg). Reflects logistics, aggregation, and material handling costs associated with collecting used batteries.	0.28 $/kWh	0.16 $/kWh
Process Costs (Disassembly + Diagnostics): Costs involved in safely dismantling battery packs and assessing their condition (e.g., state of health, capacity) to determine suitability for second-life use. Includes labor, safety measures, and testing infrastructure. Cost decline modelled using cumulative revenue volumes and a 10% learning rate.	2.17 $/kWh	1.08 $/kWh
Repurposing (Reassembly) Costs: Covers the bill of materials and refurbishment components required to reconfigure batteries for second-life use, including BMSs, inverters, converters, cooling systems, housing, and replacement cells. Costs can decline further if batteries are designed from the outset for second-life use. Cost decline modelled using cumulative revenue volumes and a 10% learning rate.	28 $/kWh	14 $/kWh

This economic analysis focuses on raw data from the Indian market, however several cost components indicative of global conditions. Processing costs, particularly as diagnostic capabilities become more widespread, are expected to remain relatively consistent across markets. Repurposing costs are broadly aligned with estimates cited above, with the National Renewable Energy Laboratory (NREL) estimating repurposing costs at approximately \$26/kWh.[16] While collection costs are highly location-specific, driven by the accessibility of collection points and local labor costs.

The ability to keep repurposing costs low will be a driving factor in the economic viability of repurposing. Market actors will need to constrain repurposing input costs to be lower than new battery cells: rational actors are unlikely to invest more in repurposing a battery pack or cell than the cost of purchasing new cells, as doing so would undermine competitiveness. As new cell costs continue to decline, they will increasingly shape the feasible range of repurposing interventions and cost structures.

Comparing these modeled costs with projected battery pack prices allows us to estimate unit economics, margins, and the overall competitiveness of repurposed batteries relative to new lithium-ion systems. The analysis indicates that repurposing can generate positive margins under expected market conditions. The methodological boundaries and modeled parameters reflect the best available data in a rapidly evolving field. The analysis establishes a clear methodology for evaluating the cost structures, pricing dynamics, and economic feasibility of second-life battery applications.

Discussion

The future of the battery repurposing market will be shaped by two primary forces: customers' willingness to pay for used batteries and the underlying cost dynamics of repurposed versus new batteries. In principle, depreciation should reflect real wear and tear. In practice, however, uncertainty, not physical degradation, is driving most of the value loss in batteries. Buyers of used EVs or repurposed batteries generally lack reliable information on the asset's history, state of health, or remaining useful life. This information asymmetry suppresses willingness to pay, since buyers implicitly discount the value of a used battery to compensate for the perceived risk. Repurposed battery demand ultimately hinges on whether the repurposed product is easy to use, safe, meets power requirements, and meaningfully cheaper than new batteries.

The second major factor is the rapid decline in new battery prices, which is fundamentally altering the economics of repurposing. Over the past decade, lithium-ion battery pack prices have fallen sharply, with BloombergNEF estimating an average cost of about 115 $/kWh as of December 2024.[17] In this year alone, LFP chemistries are reported to be approaching $55 $/kWh in some markets.[18] As new batteries become cheaper and more energy-dense, the margins on second-life battery products narrow. This raises questions about long-term competitiveness, particularly when the costs for diagnostics, disassembly, and reassembly vary by battery. At the same time, falling battery prices can accelerate EV adoption and, in turn, increase the supply of repurposable batteries. The effect can expand access to used batteries, and with greater supply, scale could help lower repurposing costs and expand the applications where repurposed batteries are considered viable.

Conclusions and recommendations

This analysis shows that battery repurposing is technically feasible, economically promising, and environmentally valuable, but it remains constrained by information gaps, design limitations, and cost dynamics that shape its competitiveness relative to new lithium-ion batteries. Repurposing can yield positive unit-level margins for LFP chemistries whose first-life degradation patterns and lower recycling value make second-life use especially compelling.

However, the long-term trajectory of this market will depend on whether repurposed batteries can reliably meet customer performance expectations and maintain a meaningful price advantage as new-battery costs continue to fall. Improving ease of disassembly, strengthening diagnostic capabilities, and expanding access to high-quality BMS data will be essential to reducing costs, mitigating perceived risk, and increasing willingness to pay. The business case is real but scaling requires coordinated and public policy can play an enabling role. Several policy levers spanning circular-by-design principles, standardized diagnostics, clear data-access frameworks, and accountability for reverse logistics, could materially strengthen and accelerate the advancement of battery repurposing markets. The table below summarizes emerging global best practices and assesses their ability to support battery repurposing and the level of evidence and precedent established to date.

Table 3: Best Practices

Area of Impact	Implementation & Key Considerations	Illustrative Example	Maturity & Path to Implementation
Circular by Design	Designing batteries for second life, by avoiding permanent adhesives, using mechanical fasteners, and adopting modular architectures, enables safer disassembly, testing, and	The EU Ecodesign Directive (2009/125/EC) requires certain electronics to be designed for disassembly and repair, discouraging excessive use of permanent adhesives.[19]	Requires upstream design changes but delivers downstream cost savings, higher recoverability, and better second-life outcomes. Can be

	redeployment. Design-for-disassembly reduces labor intensity, material loss, and safety risk during repurposing and recycling.	Voluntarily, Nissan has applied similar principles in EV battery packs, favoring mechanical fastening and modular assembly.	accelerated via ecodesign or extend producer responsibility EPR requirements.
Diagnostics (SoH)	State of Health (SoH) is an estimated metric derived from capacity fade, voltage and impedance behavior, temperature exposure, cycling history, and usage patterns. Variations in data quality, test conditions, and models lead to inconsistent SoH results. Defining minimum inputs and standardized procedures is critical.	The EU Battery Regulation requires batteries to include BMS data sufficient to assess SoH and expected lifetime. Technical standards bodies (CEN/CENELEC, IEC, UL) are converging on more harmonized diagnostic approaches.[20]	Diagnostic tools exist, but there is no globally agreed protocol yet on a standard or minimum viable SOH measurement method. Confidence and a shared means to evaluate data points is significant for valuation and safety.
Data Access	Most BMS data remains locked behind proprietary software and firmware. Lack of clarity persists on who may access, audit, and verify battery data, and what rights end users, repurposers, and recyclers have. Data governance must balance IP protection with downstream safety and market transparency.	China's regulations (2016–2017) require OEMs to report standardized, real-time EV and battery data to a centralized national platform, reducing information asymmetry and supporting safety oversight and second-life applications.[21]	Policy alignment can significantly reduce fragmentation, but jurisdictions must clearly define what data is proprietary versus a consumer or public-interest right.
Collection & Logistics	Scaling reuse and recycling depends on aggregating sufficient end-of-life battery volumes and establishing reliable reverse-logistics systems, an ongoing challenge given EV market nascency and dispersed assets.	France applies EPR to PV panels: manufacturers pay an upfront eco-fee managed by PV Cycle, enabling free end-of-life collection and recycling for asset owners.[22]	Effective collection is critical, but few large-scale battery reverse-logistics systems exist today due to limited volumes and fragmented responsibility.

For the energy transition to be truly sustainable, it must move beyond an extractive model toward one that prioritizes material preservation and long-term value. To avoid replicating failed dynamics of the fossil fuel system, electrification must be designed for longevity, reuse, and circularity rather than short-term consumption. This underscores the critical importance of embedding battery repurposing into the electrification ecosystem from the outset.

About Author

Marie McNamara, Manager at RMI, works at the intersection of electric mobility and power systems, focusing on how utilities, financiers, and fleets can accelerate vehicle electrification. She leads work on financing mechanisms and battery circularity solutions that enhance long-term system resilience throughout the energy transition.

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