Battery X Metals Reports Estimated 225 km Increase in Effective Driving Range Following Second Successful Rebalancing

26.07.2025 | ACCESS Newswire

[b]And First Successful Targeted Cell Replacement, Restoring Light-Duty Electric Vehicle to 2265 km and Diagnosing Defective Cell That Had Severely Limited Range

News Release Highlights:[/b]

1. Battery X Rebalancing Technologies restored a severely impaired Class 3 electric truck from an estimated 40 km of Effective Driving Range (limited by a Defective Cell) to an estimated 265 km of post-intervention range-representing an estimated 225 km increase (563% improvement) using its patent-pending Prototype 2.0 diagnostic and rebalancing platform. Compared to the estimated Baseline Range of 100 km prior to rebalancing, this restoration reflects a 165 km increase, or a 165% improvement in driving range.
2. Prototype 2.0 successfully diagnosed and enabled targeted replacement of a Defective Cell within a parallel-connected group, which had caused premature vehicle shutdown below 60% state of charge (SOC)-demonstrating critical diagnostic precision in real-world conditions.
3. The Rebalancing Procedure and Intervention restored the Electric Truck's functionality, corrected a severe voltage imbalance in a 144-cell NMC battery pack, and demonstrated measurable recovery of battery performance under real-world driving conditions.

Battery X Metals Inc. (CSE:BATX)(OTCQB:BATXF)(FSE:5YW, WKN:A40X9W)("Battery X Metals" or the "Company") an energy transition resource exploration and technology company, announces that further to its news releases dated June 6, July 4 and July 18, 2025, its wholly-owned subsidiary, Battery X Rebalancing Technologies Inc. ("Battery X Rebalancing Technologies"), has successfully completed a second real-world electric vehicle (EV) battery rebalancing procedure (the "Rebalancing Procedure") and driving performance trial (the "Performance Trial") under its Commercial Revenue Share Agreement (the "Revenue Share Agreement") with an arm's-length, independent automobile service center based in Vancouver, BC (the "Automotive Service Center"), which specializes in servicing out-of-warranty Tesla vehicles.

The Rebalancing Procedure and subsequent Performance Trial demonstrated a significant improvement in estimated driving range for a fully electric Class 3 commercial vehicle, or light-duty electric vehicle (the "Electric Truck") following a complete rebalancing process using Battery X Rebalancing Technologies' patent-pending second-generation lithium-ion battery rebalancing hardware and software platform ("Prototype 2.0").

Performance Trial Results

The baseline estimated driving range of the Electric Truck prior to the Rebalancing Procedure was approximately 100 kilometers (km) (the "Baseline Range"). This estimate was based on a pre-rebalancing controlled driving trial conducted under mixed city and highway conditions, during which the vehicle consumed approximately 39% of its available battery capacity to travel a distance of 39 km.

Prior to the Rebalancing Procedure (defined herein) and Intervention (defined herein), the Electric Truck exhibited a critical issue where it became inoperable once the state of charge (SOC) dropped below approximately 60%. Although the baseline driving range of the battery pack was estimated at 100 km under normal conditions, the presence of a Defective Cell (defined herein) caused the Electric Truck to shut down prematurely, limiting effective driving range to just ~40 km (the "Effective Driving Range"). This discrepancy highlights the material impact of undiagnosed cell-level defects on real-world EV performance. Following the

identification of a Defective Cell within the Affected Group (defined herein) using Prototype 2.0's integrated cell diagnostics, the entire Affected Group was replaced with a specification-matched Replacement Group (defined herein). Together with the Rebalancing Procedure, this intervention restored the Electric Truck's effective driving range to an estimated 265 km-an improvement of approximately 225 km, or 563% from the Effective Driving Range, and an improvement of 165 km, or 165%, from the Baseline Range.

Following completion of the Rebalancing Procedure and Intervention, Battery X Rebalancing Technologies conducted a controlled Performance Trial on the Electric Truck to evaluate post-rebalancing improvements in estimated driving range and battery efficiency under actual operating conditions. During this post-rebalancing trial-also conducted under mixed city and highway conditions-the Electric Truck utilized approximately 17% of its available battery capacity to travel a distance of 45.1 km.

Based on this data, the post-rebalancing estimated driving range of the Electric Truck is approximately 265 km under no-load conditions. This reflects a net increase of approximately 165 km compared to the pre-rebalancing condition-representing an improvement of approximately 233%.

The Performance Trial results demonstrate a significant improvement in both effective battery capacity and real-world driving range of the Electric Truck. These results further support the technical effectiveness and commercial potential of Battery X Rebalancing Technologies' proprietary rebalancing solution and underscore its broader applicability across commercial electric vehicle fleets and other light-duty EV use cases.

The Electric Truck parent company has represented that the Electric Truck's expected driving range under maximum payload conditions is approximately 290 km. Battery X Rebalancing Technologies' Performance Trial yielded an estimated range of approximately 265 km under no-load conditions following the Rebalancing Procedure and Intervention. Although these figures were obtained under different load scenarios, the close alignment between the Electric Truck parent company's reported range and the post-rebalancing estimate supports the reliability of Battery X Rebalancing Technologies' testing methodology. Furthermore, the Performance Trial results underscore the potential of Battery X Rebalancing Technologies' rebalancing process to restore battery performance to levels consistent with the high end of manufacturer-reported specifications.

The Performance Trial was performed under no-load conditions; it is relevant to note that payload can have an effect on energy consumption and overall driving range. This consideration is consistent with widely recognized industry dynamics and is disclosed to provide a complete and transparent understanding of factors that may influence real-world vehicle performance. Range may vary based on payload, terrain, driving behavior, and other operational conditions.[1]

The Performance Trial results further validate the effectiveness and market relevance of Battery X Rebalancing Technologies' proprietary rebalancing solution in restoring degraded battery capacity and materially extending the remaining useful life of commercial electric vehicle batteries. The Company believes these results provide technical validation supporting further evaluation of Prototype 2.0's broader commercial deployment, particularly in fleet environments where range reliability, battery lifespan longevity, and total cost of ownership are mission-critical considerations.

Rebalancing Procedure and Cell Diagnostics

The Rebalancing Procedure was performed on the Electric Truck's 144-cell lithium-ion battery pack, which had developed significant voltage imbalance under real-world operating conditions (the "Electric Truck Battery Pack"). The battery pack utilizes lithium nickel manganese cobalt oxide (NMC) chemistry.

At the time of inspection, the Electric Truck was effectively inoperable-even at a state of charge (SOC) as high as 60%-indicating a critical disruption in battery functionality. Specifically, once the SOC dropped below approximately 60%, the vehicle was unable to engage or sustain drive mode, rendering it immobile and unfit for road use, highlighting the severity of the cell imbalance and the urgent need for corrective intervention.

Using its integrated diagnostic system, Prototype 2.0 identified one specific group of parallel-connected cells registering approximately 3.56 volts (V) (the "Affected Group"), while the remaining cells in the battery pack

measured closer to 3.86V (the "Initial Voltage Target"). Since the vehicle could not operate with a group of cells falling below ~3.6V, the Affected Group was identified as the likely source of the operational failure.

An initial Rebalancing Procedure on the Electric Truck Battery Pack was performed with the intent to rebalance the voltage of the Affected Group to the Initial Voltage Target. However, due to time constraints, the Rebalancing Procedure was only partially completed, and the Electric Truck Battery Pack was left idle overnight for diagnostic observation. By the following morning, the Affected Group, identified using Prototype 2.0's integrated diagnostic system, exhibited a voltage decline of approximately 140 millivolts (mV), indicating potential abnormal self-discharge and persistent voltage decline characteristics of a battery cell within the Affected Group.

To further assess voltage retention within cells of the Affected Group, Electric Truck Battery Pack was fully charged using a Level 2 charger, with all cells but the Affected Group reaching approximately 4.10V-referred to as the "Voltage Target". The Initial Voltage Target and Voltage Target fall within the standard operating range for NMC lithium-ion cells (3.0V to 4.20V), with 4.20V typically recognized as full capacity.[2]

After a second overnight observation, one individual cell within the Affected Group displayed an abnormal voltage drop relative to the rest of the Electric Truck Battery Pack, including the Affected Group (the "Defective Cell"), which at that time was at 4.05V. In this context, a Defective Cell refers to a battery cell exhibiting abnormal self-discharge and persistent voltage decline. While such cells can technically be rebalanced, their atypical behavior may comprise group-level voltage stability, reduce usable capacity, and negatively impact long-term battery performance. Prototype 2.0's ability to isolate and identify Defective Cells is a key diagnostic advantage, enabling targeted interventions that aim to enhance the overall effectiveness of the Rebalancing Procedure.

To address the potential long term implications on battery capacity, technicians at the Automotive Service Center-acting under the Revenue Share Agreement-replaced the Affected Group, which included the Defective Cell, with a specification-matched set of cells (the "Replacement Group") to ensure compatibility with the rest of the Electric Truck Battery Pack (the "Intervention"). The Rebalancing Procedure was then rebalanced to the Target Voltage, and reintegrated into the Electric Truck Battery Pack.

Under typical conditions, a final Rebalancing Procedure of the Electric Truck Battery Pack-including the newly installed Replacement Group-would have been recommended at this stage to achieve optimal voltage balance and uniformity across all cells in the Electric Truck Battery Pack. However, due to time constraints, the vehicle advanced directly to the Performance Trial phase. Battery X Rebalancing Technologies believes that, had this final Rebalancing Procedure been conducted, the recovery in battery capacity and driving range would have been even more pronounced.

Notably, Battery X Rebalancing Technologies believes that, while the Defective Cell was a primary contributor to the Electric Truck's inoperability at approximately 60% SOC, its targeted replacement served as an enabling measure to restore localized stability rather than the principal driver of performance recovery. The subsequent Rebalancing Procedure, during which the Repaired Group was brought to the Voltage Target, was the key intervention that re-established acceptable operating tolerances and materially improved the battery pack's functional capacity. Collectively, these actions restored vehicle operability and resulted in a measurable increase in effective driving range under real-world operating conditions.

These results underscore the diagnostic precision and corrective capabilities of Prototype 2.0, which not only rebalances imbalanced lithium-ion battery packs but also identifies and isolates Defective Cells that may impact long-term performance. This integrated functionality supports more efficient battery maintenance and scalable reconditioning-particularly valuable in high-utilization commercial EV fleets.

Significance of Results

The results of the Performance Trial, Rebalancing Procedure, and Prototype 2.0's demonstrated Defective Cell diagnostic capabilities (collectively, the "Results") confirm that Prototype 2.0 is not only capable of effectively rebalancing lithium-ion battery packs exhibiting significant, naturally occurring cell imbalance, but also of identifying Defective Cells that can materially impact battery capacity and as demonstrated in this instance, vehicle operability. This successful outcome builds upon previously disclosed validation milestones achieved by Battery X Rebalancing Technologies, including third-party technical validation conducted by the

National Research Council of Canada (as referenced below), as well as the Company's news release dated May 30, 2025, announcing the successful rebalancing of a naturally imbalanced Nissan Leaf battery pack-the second most common out-of-warranty electric vehicle platform in the United States.

Importantly, the Results not only demonstrate the technical effectiveness of Prototype 2.0 in an Electric Truck application, but also demonstrate its potential to recover substantial lost battery capacity resulting from cell imbalance and identifying Defective Cells that can materially impact battery capacity and as demonstrated in this instance, vehicle operability. This performance reinforces the relevance of the Battery X Rebalancing Technologies' patent-pending technology in practical, real-world scenarios and highlights the broader need for scalable, cost-effective battery recovery solutions. The Performance Trial further substantiates the commercial viability of Prototype 2.0 as a solution to extend the remaining useful life of degraded battery packs in commercial electric vehicle fleets.

The Problem: Rising EV Adoption Presents New Battery Lifecycle Challenges

In 2024, global EV sales reached approximately 17.1 million units, representing a 25% increase from 2023.[3] With cumulative global EV sales from 2015 to 2023 totaling an estimated over 40 million units,[4] a significant share of the global EV fleet is expected to exit warranty coverage over the coming years. [5,6]

By 2031, nearly 40 million electric, plug-in hybrid, and hybrid vehicles worldwide are anticipated to fall outside of their original warranty coverage.[5,6] This projection is based on current EV adoption figures and standard industry warranty terms, and underscores a growing risk for EV owners facing battery degradation, reduced capacity, and costly replacement requirements.[7] As the global EV fleet continues to expand, the demand for technologies that extend battery life, reduce long-term ownership costs, and support a sustainable transition to electric mobility is increasing.

The Solution: Pioneering Next-Generation Technologies to Support Lithium-Ion Battery Longevity

Battery X Rebalancing Technologies' proprietary software and hardware technology aims to address this challenge by extending the lifespan of EV batteries. This innovation is being developed with the aim to enhance the sustainability of electric transportation and the goal to provide EV owners with a more cost-effective, environmentally friendly ownership experience by reducing the need for costly battery replacements.

Battery X Rebalancing Technologies' rebalancing technology, validated by the National Research Council of Canada ("NRC"), focuses on battery cell rebalancing. The NRC validation demonstrated the technology's ability to effectively correct cell imbalances in lithium-ion battery packs, recovering nearly all lost capacity due to cell imbalance. The validation was conducted on battery modules composed of fifteen 72Ah LiFePO? cells connected in series. The cells were initially balanced to a uniform state of charge (SOC), with a measured discharge capacity of 71.10Ah. In the validation test, three of the fifteen cells were then artificially imbalanced-one cell was charged to a 20% higher SOC, and two cells were discharged to a 20% lower SOC-resulting in a reduced discharge capacity of 46.24Ah, following rebalancing using Battery X Rebalancing Technologies' rebalancing technology.

These advancements establish Battery X Rebalancing Technologies as a participant in lithium-ion and EV battery solutions, aiming to tackle the critical challenges of capacity degradation of battery packs and expensive replacements. By extending the lifecycle of battery materials within the supply chain, Battery X Rebalancing Technologies aims to support the energy transition and promote a more sustainable future.

1 FlipTurn, 2 Battery University, 3 Rho Motion - Global EV Sales 2024,4 IEA Global EV Outlook 2024, 5 IEA, 6 U.S. News, 7 Recurrent Auto

About Battery X Metals Inc.

Battery X Metals (CSE:BATX) (OTCQB:BATXF) (FSE:5YW, WKN:A40X9W) is an energy transition resource exploration and technology company committed to advancing domestic and critical battery metal resource exploration and developing next-generation proprietary technologies. Taking a diversified, 360° approach to the battery metals industry, the Company focuses on exploration, lifespan extension, and recycling of

lithium-ion batteries and battery materials. For more information, visit batteryxmetals.com.

On Behalf of the Board of Directors
Massimo Bellini Bressi, Director

For further information, please contact:

Massimo Bellini Bressi
Chief Executive Officer
Email: mbellini@batteryxmetals.com
Tel: (604) 741-0444

Disclaimer for Forward-Looking Information

This news release contains forward-looking statements within the meaning of applicable Canadian securities laws. Forward-looking statements in this release relate to, among other things: the estimated driving range improvements for the Electric Truck following the Rebalancing Procedure; the interpretation and implications of the Performance Trial and Rebalancing Procedure; the technical capabilities and potential future applications of Prototype 2.0, including its ability to restore battery capacity and address cell imbalance in lithium-ion battery packs; the relevance of these results to light-duty electric vehicles and high-utilization commercial EV fleets; and the Company's broader objective to extend battery life and improve performance outcomes for electric vehicle operators. These forward-looking statements reflect management's current expectations, estimates, projections, and assumptions as of the date of this news release and are based on a number of factors and assumptions believed to be reasonable at the time such statements are made, including without limitation: assumptions regarding the repeatability of results under similar conditions; consistent battery behavior across comparable vehicles and chemistries; the continued performance of Prototype 2.0 in future applications; and the relevance of the platform's diagnostic capabilities to real-world EV battery issues. Forward-looking statements are subject to known and unknown risks, uncertainties, and other factors that may cause actual results, performance, or achievements to differ materially from those expressed or implied by such statements. Such risks and uncertainties include, but are not limited to: the inability to replicate trial results in other settings; variability in battery performance across different chemistries or states of health; limitations in diagnostic interpretation; unforeseen technical or operational challenges; risks generally associated with early-stage battery technology development; regulatory changes affecting EV battery technologies; and intellectual property risks related to Prototype 2.0. There can be no assurance that Prototype 2.0 will achieve broader commercial adoption or that the Company or Battery X Rebalancing Technologies will realize any revenues from the developments described herein. Readers are cautioned not to place undue reliance on such forward-looking statements. Except as required by applicable securities laws, the Company undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise. Investors are encouraged to consult the Company's continuous disclosure filings available under its profile at www.sedarplus.ca for additional risk factors and information.

SOURCE: Battery X Metals