

United States Senate

WASHINGTON, DC 20510

June 17, 2024

The Honorable Jennifer Granholm
U.S. Department of Energy
1000 Independence Avenue SW
Washington, D.C. 20585

Dear Secretary Granholm,

As the American transportation sector continues to electrify, we urge the Department of Energy (DOE) to take steps to bolster and diversify the nation's domestic supply of electric vehicle (EV) batteries—including by promoting the emerging EV battery recycling industry. Specifically, we urge DOE to:

- Work with the General Services Administration (GSA) to carry out Sec. 7231 through 7234 of the Fiscal Year 2023 National Defense Authorization Act (NDAA; Public Law 117-263) and partner with other federal agencies to develop and implement plans for second-life applications of EV batteries.
- Coordinate EV battery collection at the state and local level to strengthen the supply chain for battery recyclers.
- Prioritize funding technologies that facilitate efficient battery recycling when implementing the bipartisan Infrastructure Investment and Jobs Act (IIJA; Public Law 117-18).

As you know, EV sales set a record in 2023, surpassing one million cars sold.¹ As the adoption of EVs accelerates, so too will the consumption of the critical minerals and materials needed to construct new batteries²: projections indicate that, by 2034, the U.S. will consume roughly 500,000 metric tons of lithium, nickel, cobalt, manganese, and graphite, combined.³ The global supply of these minerals is currently dominated by China, which accounts for 60% of production and 85% of processing capacity.⁴ Bringing critical mineral production to the U.S. and our free-trade partners is an important next step in the transition to EVs and other zero-emissions

¹ *Americans Bought More than a Million Electric Vehicles This Year*, CNN Business, (Dec. 6, 2023) (online at <https://www.cnn.com/2023/12/06/business/americans-bought-1-million-electric-this-year/index.html>).

² Rocky Mountain Institute, *How the Inflation Reduction Act Will Spur a Revolution in EV Battery Supply Chains* (Oct. 12, 2022) (online at <https://rmi.org/how-the-inflation-reduction-act-will-spur-a-revolution-in-ev-battery-supply-chains/>).

³ Rocky Mountain Institute, *How the Inflation Reduction Act Will Spur a Revolution in EV Battery Supply Chains* (Oct. 12, 2022) (online at <https://rmi.org/how-the-inflation-reduction-act-will-spur-a-revolution-in-ev-battery-supply-chains/>).

⁴ The German Marshall Fund, *China's Role in Critical Mineral Supply Chains* (Aug. 2, 2023) (online at <https://www.gmfus.org/news/chinas-role-critical-mineral-supply-chains>).

transportation. But mining alone will not fully meet increased mineral demand and risks significant environmental degradation and public health harms.

EV battery recycling can help bridge the gap in our domestic supply chain and reduce our dependence on foreign imports. Some estimates indicate that by 2027 more than 200,000 metric tons of American EV batteries could reach the end of their practical life.⁵ The supply of end-of-life batteries is projected to increase rapidly in subsequent decades.⁶ Used batteries contain valuable mineral resources and reclaiming them will help increase our manufacturing capacity. For example, some early entrants into the recycling field have salvaged up to 95% of the critical minerals from an EV battery.⁷ These high-efficiency yields will allow the U.S. to build a more resilient battery supply chain.

Congress has taken bipartisan steps to support the EV battery recycling industry. The IIJA allocated more than \$6 billion for advanced battery manufacturing, research, and development.⁸ This investment has supported several programs focused on recycling, such as the Battery Materials Processing Grants Program, which is essential to building U.S. capacity for processing recycled material outputs. The Department has already awarded \$2.8 billion of this funding, supporting 15 projects across the country.⁹ We commend DOE's work to date and encourage you to continue swift implementation to meet the growing demand for these technologies.

We also urge DOE to take additional steps to support the emerging battery recycling industry. Through coordination, harnessing federal purchasing power, and strengthening battery recycling incentives, the Department can ensure U.S. leadership in this industry. Specifically, we ask that the Department:

⁵ Congressional Research Service, *Critical Minerals in Electric Vehicle Batteries* (Aug. 29, 2022) (R47227) (online at <https://www.crs.gov/Reports/R47227?source=search>).

⁶ International Council on Clean Transportation, *Will the U.S. EV Battery Recycling Industry Be Ready for Millions of End-Of-Life Batteries?* (Sep. 29, 2023) (online at <https://theicct.org/us-ev-battery-recycling-end-of-life-batteries-sept23/>).

⁷ *How Li-Cycle Technology Retrieves 95% of Lithium Battery Content*, Waste 360 (Jun. 30, 2020) (online at <https://www.waste360.com/waste-recycling/how-li-cycle-technology-retrieves-95-of-lithium-battery-content>); *Tesla's Cofounder's Redwood Shows 95% Efficiency in Battery Recycling Pilot*, Electrek (Mar. 2, 2023) (online at <https://electrek.co/2023/03/02/tesla-cofounders-redwood-shows-95-efficiency-in-battery-recycling-pilot/>); *Toyota Working with Cirba Solutions to Expand Battery Recycling Network*, Recycling Today (Dec. 7, 2023) (online at <https://www.recyclingtoday.com/news/toyota-working-with-cirba-solutions-to-expand-battery-recycling-network/>).

⁸ International Energy Agency, *Infrastructure and Jobs Act: Batteries* (Dec. 12, 2023) (online at <https://www.iea.org/policies/14994-infrastructure-and-jobs-act-batteries>); Congressional Research Service, *Energy and Minerals Provisions in the Infrastructure Investment and Jobs Act (P.L. 117-58)* (Mar. 31, 2023) (R47034) (online at <https://www.crs.gov/Reports/R47034?source=search>).

⁹ U.S. Department of Energy, *Bipartisan Infrastructure Law: Battery Materials Processing and Battery Manufacturing Recycling Selections* (Nov. 1, 2022) (online at <https://www.energy.gov/mesc/bipartisan-infrastructure-law-battery-materials-processing-and-battery-manufacturing-recycling>).

- **Promote Battery Recycling in the Federal Government.** DOE has been working across the federal government to electrify and optimize the efficiency of the federal fleet.¹⁰ DOE should consider partnering with other agencies to develop plans for managing retired federal EVs, including repurposing batteries through second-life applications and mineral recycling. The Department should also coordinate with GSA as it implements the Strategic EV Management provisions of the FY 2023 NDAA.
- **Improve Used Battery Collection.** DOE should leverage the IIJA's Consumer Electronics Battery Recycling, Reprocessing, and Battery Collection program to ensure a functional supply chain by working with grant recipients to coordinate the distribution of collected batteries to recyclers at scale.¹¹ DOE should also work with recipients to conduct public outreach and education campaigns to maximize the efficacy of battery collection programs. Finally, DOE should coordinate with the EPA on its Battery Collection Best Practices and Battery Labeling Guidelines, which the EPA is required to complete by 2026 under the IIJA.¹²
- **Prioritize Technologies to Facilitate Efficient Recycling.** DOE should continue to prioritize battery recycling as it implements the IIJA. Funding opportunities should focus on technologies that result in the highest yield of recycled minerals, reduce pollution from non-mineral components, and are the most energy efficient. DOE should also concentrate advanced manufacturing grants on battery designs that facilitate recycling to maximize circular management of resources.

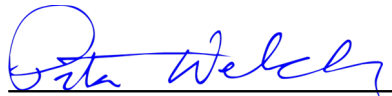
We applaud DOE's efforts to strengthen the emerging battery recycling industry in the U.S., which will further our transition to a zero-emission transportation sector, strengthen our energy security, and bolster American manufacturing. We appreciate your attention to this matter and request a briefing for our staff on DOE's battery recycling programs by July 19, 2024.

Sincerely,

¹⁰ U.S. Department of Energy, *Fleet Electrification and Optimization* (online at <https://www.energy.gov/femp/fleet-electrification-and-optimization>).

¹¹ Funding opportunities under this program provide support for retailers and state and local governments to establish lithium-ion battery collection, recycling, and reprocessing systems and increase consumer participation. See U.S. Department of Energy, *Biden-Harris Administration Announces \$192 Million to Advance Battery Recycling Technology* (Jun. 12, 2023) (online at <https://www.energy.gov/articles/biden-harris-administration-announces-192-million-advance-battery-recycling-technology>).

¹² U.S. Environmental Protection Agency, *Battery Collection Best Practices and Battery Labeling Guidelines* (May 13, 2024) (online at <https://www.epa.gov/infrastructure/battery-collection-best-practices-and-battery-labeling-guidelines>).



Peter Welch
United States Senator



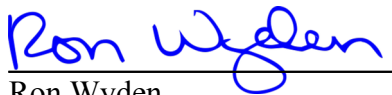
Gary C. Peters
United States Senator



Tammy Duckworth
United States Senator



Richard J. Durbin
United States Senator



Ron Wyden
United States Senator



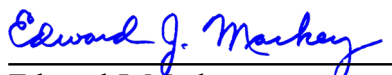
Michael F. Bennet
United States Senator



John Hickenlooper
United States Senator



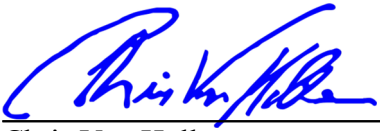
Debbie Stabenow
United States Senator



Edward J. Markey
United States Senator



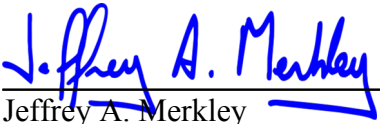
Bernard Sanders
United States Senator



Chris Van Hollen
United States Senator



Martin Heinrich
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Jeffrey A. Merkley
United States Senator



Cory A. Booker
United States Senator