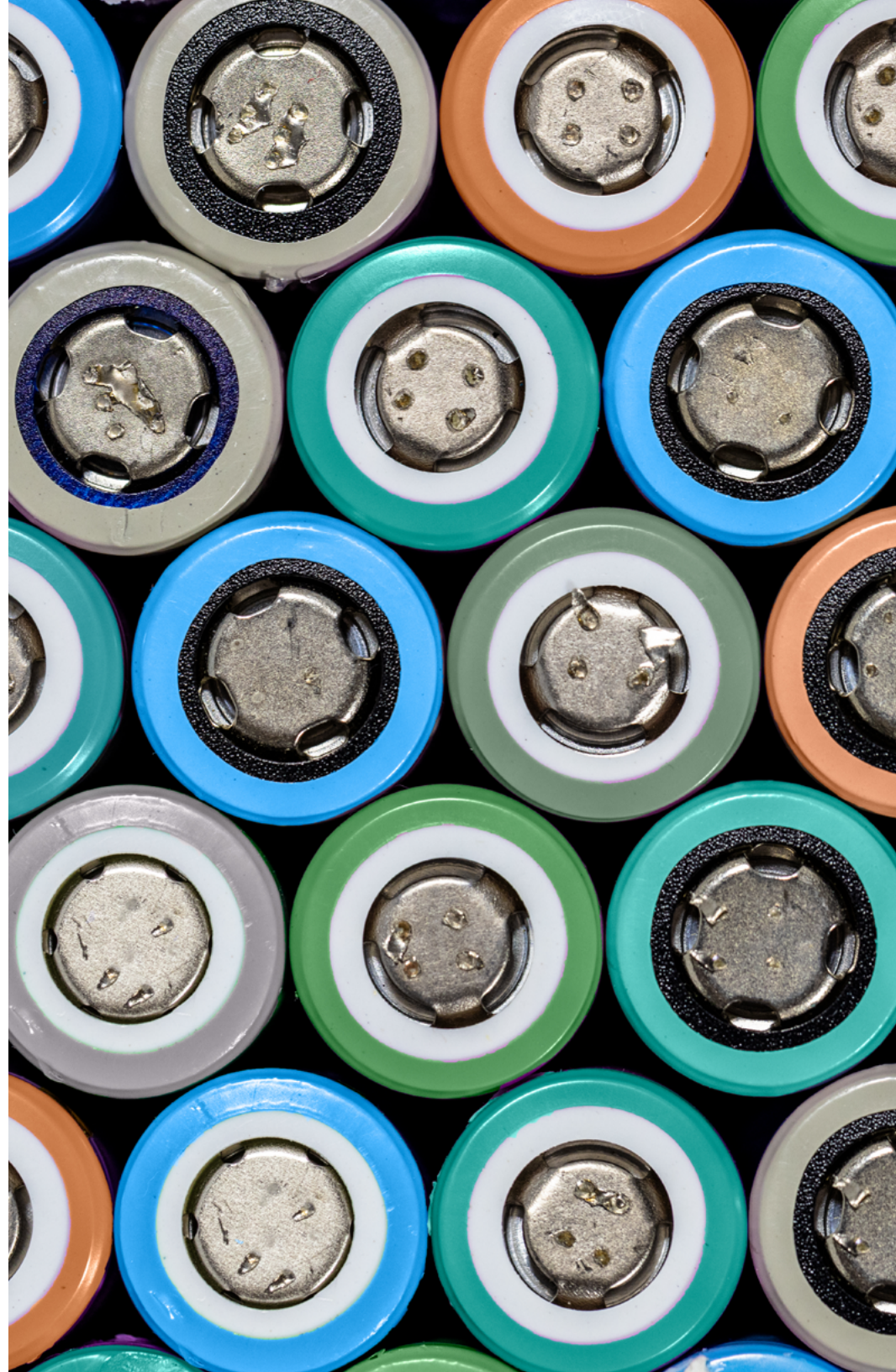


Consumer Recycling Program Advocate Toolkit



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Mission statement

As the world combats climate change, electrification of transportation and clean energy storage is key. As a result, the demand for the critical metals used in lithium-ion batteries, including cathode active material, is projected to skyrocket by nearly 600% over the coming decade. To ensure a sustainable energy future, we must increase the batteries on earth while driving down their environmental impact, cost, and supply chain risks.

Redwood Materials is developing a closed-loop supply chain to power our country's clean energy transition. We're creating the most important components of a lithium-ion battery in the US for the first time, at scale, and from an increasing amount of recycled content. Where does this recycled content come from? Old batteries! While we cannot recycle our way entirely to the increased demand for batteries, we can all play a role by ensuring our existing products – from electric vehicles and e-bikes to rechargeable devices – are responsibly recycled. Conveniently, our old consumer devices, while small and easily forgotten, add up to a tremendous amount of material that can be part of the solution. We estimate that some of the largest lithium and cobalt reserves in the world can be found in America's junk drawers.

By recovering these critical battery materials from old phones, tablets, laptops and power tools, we can significantly reduce our reliance on newly mined metals and create a more sustainable future.

In 2022, Redwood introduced its “Consumer Recycling Program,” providing convenient recycling pathways for individuals to recycle their lithium-ion batteries and rechargeable devices. By forging partnerships with non-profits, schools, retail locations, and communities across the United States, we are spreading the word about the importance of battery recycling and empowering communities to responsibly manage their devices and batteries at the end of their life. However, we can't do this alone.

We believe in the strength of collective action and are dedicated to engaging and empowering people to join our mission, accelerating our clean energy transition.

Recycle with Redwood Materials and help us steer our nation toward a sustainable future; a future rooted in energy independence, American manufacturing, and a secure, domestic supply chain.

Let's close the loop, together.



About this toolkit

This toolkit serves as a comprehensive guide and resource to empower individuals in their efforts to engage with communities and networks, creating convenient recycling pathways for old consumer devices and lithium-ion batteries.

If you have questions or are interested in discussing recycling opportunities with Redwood, please email us at:

recycle@redwoodmaterials.com

Structure

This toolkit is organized into five main sections:

Intro to battery and rechargeable device recycling

01

Understanding lithium-ion batteries

Lithium-ion batteries are commonly found in various rechargeable consumer electronic devices such as smartphones, laptops, tablets, and power tools. They're also at the heart of electric vehicles and sustainable energy storage applications. These batteries consist of several components, including an anode, usually made up of copper and graphite, a cathode, often constructed from lithium, nickel, and copper, and an electrolyte solution that enables the flow of ions between the anode and cathode.

Consumer devices frequently utilize lithium-ion batteries due to their lightweight nature, high energy density, and ability to be recharged multiple times with minimal performance degradation.

Recycling lithium-ion batteries and rechargeable devices containing them is essential for several reasons:

- **Environmental impact reduction**

Recycling lithium-ion batteries conserves valuable metals that can be reused instead of discarded in landfills, thereby reducing the environmental impact and preserving resources.

- **Meeting growing demand**

With the unprecedented growing demand for lithium-ion batteries across various industries (clean energy, transportation, consumer electronics, etc.), recycling helps society address this increased need.

- **Strengthening domestic supply chain**

Establishing local recycling pathways bolsters our domestic supply chain, reducing dependence on foreign sources, ensuring these valuable metals remain in the US supply chain and drives down battery costs.

- **Safety hazards minimization**

Proper recycling of lithium-ion batteries and consumer devices helps minimize the risk of fires and other safety hazards.

In summary, recycling lithium-ion batteries and consumer devices is a crucial step for individuals to protect the environment, promote sustainability, support a thriving clean energy economy, and mitigate safety hazards.



Redwood's recycling process

In addition to the overall mission of Redwood and the products we're creating, our process of recycling and creating new battery components uses extremely sustainable and energy efficient technology.

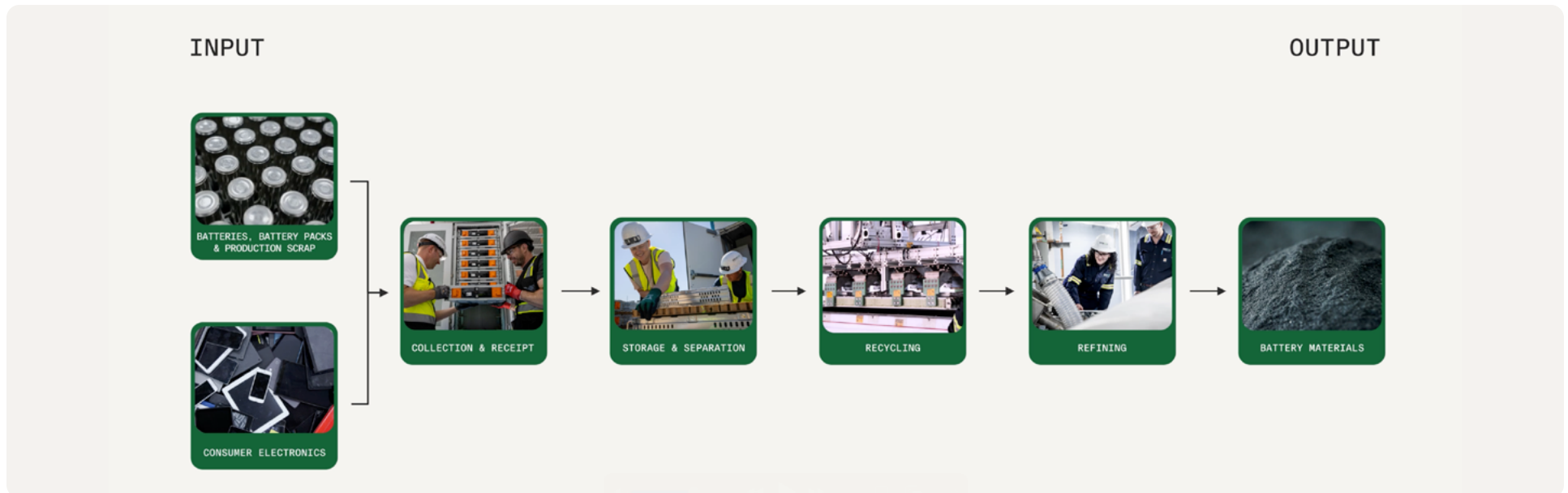
Utilizing advanced technology and proprietary processes, Redwood efficiently recovers valuable materials, such as lithium, cobalt, nickel, graphite, manganese and copper, from end-of-life batteries and consumer electronics. On average, we [recover more than 95% of critical minerals](#) and use those battery-grade metals to produce battery components that are supplied back to U.S. battery manufacturers.

Because of the wide range of material we're receiving—everything from large electric vehicle battery packs and energy storage systems to small consumer electronics like wireless headphones and toothbrushes—we're focused on innovating across a variety of technologies

that are sustainable, scalable, and economical. We employ the best technology for each of our feed streams, using a zero liquid discharge hydrometallurgy process that avoids the potential for contaminated process water exiting the site, to refine batteries and scrap. Our processes are 100% electrically powered, using only renewable energy and requiring no natural gas or other sources of fossil fuels.

By recovering these critical minerals, we not only promote a circular economy but also, over time, can reduce the demand for mining raw materials, thus minimizing the overall carbon footprint of the clean energy transition.

To meet the growing demand for electric vehicles, clean energy storage, and the batteries that power them, Redwood aims to develop critical battery components from as much recycled content as possible. This is where you can help!



Identifying devices that contain lithium-ion batteries

Redwood accepts rechargeable devices that contain lithium-ion batteries, such as:

- Cell phones
- Laptops
- Tablets
- Cordless power tool batteries
- Electric toothbrushes
- Wireless headphones
- Wireless speakers or virtual assistant devices
- Car key fob batteries
- Rechargeable vacuum cleaner batteries
- Any other rechargeable device with a lithium-ion battery (Li-ion)



Identifying devices that contain lithium-ion batteries

Redwood also accepts various lithium-ion (li-ion) and nickel metal hydride (Ni-MH) batteries commonly found around the home.



Consumer Recycling Program overview

02

Overview



In 2022, Redwood introduced its “Consumer Recycling Program,” a nationwide initiative aimed at educating, engaging, and providing accessible recycling solutions for consumer lithium-ion batteries and rechargeable devices.

Through strategic partnerships with non-profit organizations, universities, and retail locations across the U.S., we’re raising awareness about the importance of battery recycling and offering easy-to-access avenues for consumers to responsibly manage their rechargeable devices and batteries at the end of their life cycle.

We believe in the power of collective action and are committed to engaging and empowering people to join our mission, ultimately generating a far-reaching positive impact. By cultivating partnerships and launching community-driven initiatives, we want to make responsible recycling an integral part of daily life.

At Redwood, our dedication to responsible recycling contributes to building a more sustainable future.. We encourage individual advocates to embrace their essential role in promoting responsible, convenient recycling

pathways within their communities. By doing so, you collectively support a mission to create a closed-loop supply chain and power a sustainable future.

Collection channels overview (device/battery)



Community collection events



Collection locations



Direct mail

How to engage Hosting a community event

Organizing a recycling event is an excellent way to raise awareness, engage your community, and provide convenient recycling options for consumer lithium-ion batteries and old devices.

Apply to host an event

To apply, please email recycle@redwoodmaterials.com with your name, email, city/state, preferred dates, and a brief description of your community engagement plans.

For Rotary Club members, please submit your inquiry through: <https://esrag.org/lithion/>

Secure a date & location

Choose a location that is easily accessible and well-known within your community. Keep in mind that most people prefer not to travel far to recycle their batteries. Consider pairing your recycling event with existing community gatherings, drives, or club activities for increased participation.

Gather volunteers

Invite representatives from local government, civic organizations, clubs, homeowner associations,

church groups, and media to serve on a recycling planning committee. Assembling a diverse coalition can help ensure a well-organized event. Appoint site captains who will oversee the event and assign roles to guarantee a smooth operation day-of.

Promote

Maximizing community awareness of your event is key to its success. Utilize social media channels, local news boards, distribute posters at popular retail locations, and engage with local schools and non-profit organizations to spread the word about your event. We've provided additional tactics to promote your event in the 'Communications' section of this toolkit.

Collect

Redwood will work with you to send barrels, boxes, and event material needed to safely and effectively collect end-of-life batteries and devices. Watch the [battery prep training video](#) and follow the user-friendly [barrel](#) and [box](#) battery collection guides to get started. By adhering to the collection guidelines, you'll contribute to a more efficient and responsible recycling process, ultimately supporting a greener future.



How to engage Drop-off collection bins

Redwood has introduced collection bins at partner and retail locations nationwide, providing consumers with free, accessible recycling options in their communities. As we work to expand the availability of these convenient recycling kiosks, raising awareness of their presence is essential.

We invite advocates to visit our [website](#) and share the bin location map with their networks, helping to promote this convenient recycling solution within your community.

Our network of collection points is constantly growing and updated regularly. Together, we can expand our reach and make recycling even more accessible for everyone.



How to engage Direct mail

Redwood Materials' direct mail collection allows individuals who may not be within reach of an event or drop-off point to conveniently and responsibly recycle their old lithium-ion batteries and electronic devices by mailing them directly to Redwood.

For more information, [please visit the "Direct Ship" section](#) of our website.



Preparing the device/battery for recycling

To ensure the safe and compliant recycling of rechargeable devices and batteries, it's essential to follow specific safety measures while adhering to federal, state, and local guidelines. Proper packaging and sorting of devices and batteries during collection events play a critical role in this process.

We've developed an [instructional video](#) that outlines these crucial steps, applicable to the three primary collection methods: community events, collection bins, and direct mail. By adhering to these guidelines, you can contribute to a more efficient and responsible recycling process, paving the way for a sustainable future.

Please reference our [Device Recycling FAQs & Guidelines](#) on our website and in the toolkit appendix for more information.

How to engage Key consumer program partnerships

Rotary Club's ESRAE: Environmental Sustainability Rotary Action Group

Redwood has formed a strategic partnership with Rotary Club's Environmental Sustainability Rotary Action Group (ESRAE) to further our mission of promoting responsible recycling and environmental sustainability. Rotary Clubs are well-known for their community service initiatives and dedication to making a difference in local and global communities. Through this partnership, we aim to amplify our impact and extend our reach on a grassroots level.

Our partnership enables Rotary Clubs to host community collection events and raise awareness about the importance of recycling lithium-ion batteries and electronic devices. By leveraging the extensive network of Rotary Club members and the organization's reputation for community engagement, Redwood Materials can make it easier for communities to participate in responsible recycling practices.

If you are a Rotarian, or are part of a local organization that would like to host similar battery collections, please reach out to us at recycle@redwoodmaterials.com

Volkswagen and Audi

Building on our partnership with Volkswagen Group of America to recycle batteries from Volkswagen and Audi electric vehicles, Redwood has also formed a partnership with the Group to help recycle lithium-ion batteries and electronic devices. VW and Audi dealerships across the country host Redwood collection bins, offering consumers an accessible and convenient way to recycle their old devices and batteries.

VW and Audi, a leading automaker and EV brand with a commitment to sustainability, recognizes the importance of addressing the environmental impact of electronic waste and supporting a circular economy. By partnering with Redwood Materials, VW and Audi demonstrate their dedication to environmental stewardship and promote responsible recycling practices among their customers and the broader community.

Read more on the partnership [here](#).



How to engage Key consumer program partnerships

RadPower Bikes

Redwood Materials has partnered with Rad Power Bikes, a leading electric bike manufacturer committed to sustainable e-mobility solutions, to facilitate the responsible recycling of consumer devices and lithium-ion batteries.

This collaboration involves Rad Power Bikes integrating Redwood's recycling services into their operations across select stores, offering customers an accessible and convenient way to recycle their old batteries and electronics. By partnering with Redwood Materials, Rad Power Bikes demonstrates its dedication to environmental stewardship and promotes responsible recycling practices among its customers and the broader e-mobility community.

Read more on the partnership [here](#).



How to engage Community education & relational organizing 101

Relational organizing is a grassroots community advocacy strategy that emphasizes the power of personal relationships and networks to mobilize and engage people in social, political, or environmental causes. The approach is built on the premise that people are more likely to take action when they feel connected to others who share their values and concerns. While this “toolkit” provides you with the tools to engage your community, it is important to understand the strategy.

Key aspects of relational organizing include:

Building relationships

prioritize building strong, genuine connections with community members, focusing on mutual interests, shared experiences, and common goals.

- Start by reaching out to friends, family, neighbors, and colleagues to discuss shared concerns and interests.
- Attend local events and gatherings to meet new people and expand your network.
- Use social media to engage with others and create spaces for dialogue and connection.

Identifying leaders

Relational organizing seeks to identify and empower natural leaders within communities, who can then mobilize their own networks and inspire others to act. This starts with you!

- Observe your network and identify individuals who are influential, passionate, and committed to your cause.
- Invite these potential leaders to take on roles within your organizing efforts, such as hosting events or leading education initiatives.

Leveraging networks

Advocates are encouraged to tap into their personal networks to recruit new supporters, using their existing relationships to build trust and facilitate engagement.

- This toolkit shows you how to organize events or activities that encourage supporters to bring along friends or family, fostering a sense of community and shared purpose, and of course collection of devices/batteries.
- Use digital tools, such as email lists and social media platforms, to help supporters easily share information and opportunities with their networks.

Storytelling

Personal stories and narratives are used to demonstrate the impact of issues on individuals and communities, creating emotional connections and fostering empathy among supporters.

- Whether it is a growing problem of e-waste, or the desire to accelerate the transition to EVs because of tailpipe emissions in

your community, personalizing WHY you're advocating makes a big difference when fostering connection.

Education & capacity building

Relational organizing aims to strengthen communities by providing resources, training, and support to help individuals develop the skills and knowledge needed to become effective advocates for their cause. You can play an important role by educating your neighbors, school groups, etc., about proper recycling and Redwood's mission to build a circular supply chain. There are various resources in the toolkit appendix to help.

Sustainable engagement

The relational approach fosters long-term commitment to social change by nurturing a sense of belonging, accountability, and shared purpose among community members.

Overall, relational organizing is a powerful and inclusive strategy for community advocacy, leveraging the potential of human connections to create meaningful, lasting change. This is a powerful tool to ensure we collectively tap into the junk drawers of America and keep these critical battery metals within the supply chain in order to drive down costs, curb emissions, and accelerate the transition to sustainable energy.

Communications (messaging & media engagement)

03

Engage with local media

Connecting with local newspapers, radio stations, and television channels offers an excellent avenue for sharing your story and promoting your events. Media alerts, press releases, letters-to-the-editor, op-eds, and interviews underscore the significance of recycling, create awareness for your event and demonstrate your community's active participation in Redwood's program.

Here are some strategies to help you effectively engage with local media:

Identify key media contacts

Research local media outlets covering sustainability and environmental topics, compiling a list of reporters, editors, and producers potentially interested in your local collection event. You can send reporters a pitch by email, phone, or draft and send a broad media alert (media alert template below) to gather coverage for your event.

Initiate contact

Introduce your initiative, highlight its relevance to their audience, and clearly articulate what you are offering—an interview, a story, or an invitation to an upcoming event.

Utilize Redwood's press kit

Containing crucial information, statistics, and visuals, our press kit can make your story more appealing to journalists and readers.

[Download press kit materials](#)

Leverage social media

Connect with local journalists, share stories, and promote events on social platforms, fostering increased visibility and media rapport.

Remember, the key to successful media engagement is building relationships and providing value. When you help journalists do their jobs effectively, they are more likely to help you achieve your publicity goals.

[READ EXAMPLE COVERAGE](#)

Media alert template

<INSERT ORGANIZATION> Hosts Lithium-ion Battery Recycling Event this <INSERT DATE>

<INSERT ORGANIZATION> will be collecting and recycling lithium-ion batteries and rechargeable devices that you've been holding onto in your junk drawers! Join us on <INSERT DATE> at <INSERT LOCATION> and bring your lithium-ion batteries and rechargeable devices including smartphones, tablets, electric toothbrushes, laptops, power tool batteries, rechargeable vacuum batteries, wireless headphones, and any other lithium-ion battery and help close the loop.

Climate change is creating a global imperative to electrify everything from our vehicles to our grids.

Lithium-ion batteries are at the heart of powering all these solutions and are made up of the same metals like cobalt, copper, nickel and lithium. At the end of a product's life, every rechargeable lithium-ion battery is a source for making new batteries and sustainable energy products in the US. By responsibly recycling our products and batteries, we keep them out of landfills, reduce the need to mine critical minerals, and help increase the security of our domestic supply chains.

Smart phones, laptops and electric vehicles all are powered by lithium-ion batteries and can recover more than 95% of the metals from old, end-of-life products and significantly decrease the US' reliance on newly mined materials and overseas supply chains. However, today, few pathways exist to get these old products recycled responsibly resulting in a national recycling rate of about 5%. **Redwood Materials is on a mission to collect as many of these old products as possible to sustainably recycle, refine, and remanufacture these batteries here in America.**

Visit www.redwoodmaterials.com/recycle-with-us/ for more information, and let's close the loop, together!

LTEs and op-eds: Amplify your voice for responsible recycling

Your voice, as advocates for responsible recycling and Redwood's Consumer Recycling Program, can effectively spread awareness and engage the public through Letters to the Editor (LTE) and opinion-editorial (op-ed) pieces. Follow our step-by-step guide included in the toolkit to create compelling LTEs and op-eds to support your community engagement efforts.

- **Choose relevant publications**
Target local/regional outlets covering environmental or sustainability issues.
- **Follow submission guidelines**
Adhere to each publication's guidelines regarding word count limits and submission procedures.
- **Create a strong opening**
Start with an engaging statement referencing a recent recycling or sustainability event or article.
- **Highlight your role**
Briefly introduce your role as an advocate and emphasize the significance of convenient recycling pathways.

- **Share personal or local examples**
Include a personal experience or local example demonstrating the impact of recycling or the need for a circular supply chain.
- **Call-to-action**
Encourage readers to engage with Redwood's collection channels (local recycling events or collection bins).
- **Keep it clear and concise**
Keep your message focused and within the publication's word count limit.
- **Provide your contact information**
Include your name, address, and phone number for verification purposes.
- **Edit and proofread**
Check for spelling, grammar, and punctuation before submission. Reach out to our team for help, if needed.
- **Follow up**
If not published within a week or two, submit to another publication or revise it to reflect new developments.

By following these steps, you can craft persuasive LTEs and op-eds that raise awareness of your role in driving sustainability and encouraging responsible recycling practices within your community. These powerful tools can help you amplify your voice, influence public opinion, and contribute to Redwood's mission of powering sustainable future.

Key program messaging

As ambassadors of responsible recycling and Redwood's Consumer Recycling Program, we must consistently deliver clear and coherent messages. Here are some essential talking points to incorporate into your outreach efforts:

- **The importance of recycling**

Underscore the imperative need for recycling consumer devices and lithium-ion batteries to mitigate environmental impacts, conserve precious resources, and eliminate safety hazards.

- **Redwood's Consumer Recycling Program**

Highlight Redwood's initiative to educate, engage, and provide accessible recycling solutions for consumer lithium-ion batteries and outdated devices through community collection events, drop-off bins, and the direct-mail program.

- **Convenience and accessibility**

Highlight the significance of making recycling both convenient and accessible. This is achieved by actively participating in and promoting Redwood's collection channels and collaborating with local partners.

- **Community involvement**

Encourage individuals and communities to get involved in recycling efforts, emphasizing the power of collective action to create a positive impact on the environment and contribute to a sustainable future.

- **Closed-loop supply chain**

Reinforce Redwood's mission to create a closed-loop supply chain by recovering critical battery materials from old consumer devices, ultimately reducing our reliance on newly mined materials.

- **Partnerships and collaboration**

Showcase Redwood's partnerships with organizations such as Rotary Clubs, Audi, and VW, as well as the ongoing efforts to establish new collaborations and expand the recycling network.

- **Policy advocacy**

Support Redwood's advocacy for responsible recycling policies and regulations at the local, state, and national levels to support the overall sustainability of our clean energy future.

To further expand your knowledge, refer to the "Additional messaging" section in the toolkit appendix. This section offers comprehensive talking points on a host of Redwood and industry topics. Use these resources to enhance your outreach efforts, promote responsible recycling practices, and make a meaningful impact in our community.



Social media guidance

Social media platforms are powerful tools for raising awareness, engaging supporters, and sharing information about your involvement with Redwood's recycling initiatives. By leveraging these channels, you can amplify your efforts, foster community engagement, and inspire others to join our mission. This section provides guidance on using social media effectively to promote your role as an advocate and Redwood's Consumer Recycling Program.

Choose the right platforms

Focus on the social media channels that best suit your target audience and where they are most active. Facebook, Twitter, Instagram, LinkedIn, and TikTok are some of the most popular platforms to consider. Each platform has unique characteristics and user demographics, so choose those that best align with your goals and audience.

Capture content

We encourage you to capture photo and video at your event that can then be shared on your social channels or sent directly to Redwood to be

promoted throughout our Consumer Recycling Program. **Whether you're using a phone or camera please make sure the resolution is set to the highest quality.**

Share your recycling experiences

Let your audience know how you are recycling with Redwood, whether it's hosting a recycling event, sending materials via direct mail, or visiting a local drop-off bin. Share photos, videos, or stories of your experiences to encourage others to participate in Redwood's recycling program. Showcasing your personal involvement can inspire your followers to take action and join the cause.

Tag and mention Redwood

When sharing content related to Redwood's Consumer Recycling Program, be sure to tag or mention the company's official social media accounts. This will help increase visibility and encourage other users to follow and engage with the company.

Policy advocacy

04

Advocacy tactics

Redwood is actively engaged in promoting safe and convenient battery recycling at local, state, and federal levels, while advocating for policies that prioritize consumer options. As a toolkit user and advocate for sustainable recycling practices, your voice is crucial in shaping policies surrounding end-of-life batteries and e-waste management.

Redwood endorses producer responsibility for batteries at end-of-life. However, as battery technology becomes increasingly vital for the clean energy transition, it is essential to ensure that recycling pathways remain accessible and closed-loop practices are not hindered by otherwise well-intentioned policies.

By engaging with lawmakers and participating in policy discussions, you can contribute to Redwood's mission of making consumer recycling safe, effortless, and free.

Here are ways you can lend your voice to support our mission:

Stay informed

Stay current on laws and regulations governing battery recycling and e-waste management in

your area. Subscribe to newsletters, follow social media channels, attend webinars or events, and contact us directly for updates on these issues.

Contact your representatives

Communicate with your local, state, and federal elected officials to express your support for Redwood's responsible recycling policies. Use key messaging points from this toolkit to articulate your stance and share our mission.

Attend public meetings

Participate in town halls, city council meetings, or public forums discussing battery recycling and e-waste management. Advocate for sustainable recycling practices and highlight the benefits of Redwood's approach.

Collaborate with local organizations

Partner with environmental groups, community organizations, and other stakeholders passionate about responsible recycling. Unite efforts to promote policies that support Redwood's mission.

Write op-eds or letters to the editor

Partner with environmental groups, community



organizations, and other stakeholders passionate about responsible recycling. Unite efforts to promote policies that support Redwood's mission.

Engage on social media

Use social media platforms to raise awareness about the need for effective battery recycling policies. Share articles, policy updates, and personal stories related to recycling efforts, and follow the "Social Media Guidance" section in this toolkit for best practices.

By actively participating in the policy-making process, you can help shape a sustainable future for battery recycling and e-waste management, ensuring Redwood's mission of making consumer recycling safe, convenient, and free becomes a reality.

Due to the complexity of these issues, please contact our team via the link below to discuss the best way for you to get involved.

[CONTACT US](#)

Conclusion

This toolkit should serve as a comprehensive guide for individuals and communities looking to make a meaningful impact through Redwood's Consumer Recycling Program. Promoting collection channels enables us to expand the reach of our recycling efforts, providing accessible and convenient solutions for individuals and communities across the nation.

By utilizing the resources, strategies, and best practices outlined in this toolkit, you can play a vital role in promoting responsible recycling, engaging your community, and contributing to the overarching goal of creating a sustainable, closed-loop supply chain.

Together, we can drive positive change, reduce our reliance on newly mined materials, and support a cleaner, more sustainable future for generations to come.

Appendix / additional resources

05

Device recycling FAQs & guidelines

How do I package and ship batteries?

Lithium-ion batteries and consumer devices can be shipped following Department of Transportation (DOT) guidelines to: Redwood Consumer Program 675 Innovation Way ATTN: Consumer Recycling Program Sparks, NV 89437

Devices with a battery inside (ex: phone, laptop or tablet): send in standard packing (any strong cardboard box works) with inner packing materials to prevent movement within the box. Please make sure your package does not exceed 66lbs.

Loose lithium-ion batteries: ship following DOT guidelines. Each battery should be placed in its own clear plastic bag (produce or sandwich bag) or tape the terminals with packing, electrical or duct tape. Items can be shipped by ground transportation only and package cannot exceed 66lbs. Items that present a health or safety hazard are not accepted.

How do I tape and bag a battery safely?

Place individual cells or batteries into an anti-static plastic baggie and seal closed. If taping, apply a layer of tape around the circumference of the battery or cell.

Is my data safe? How does Redwood destroy it?

Before shipping or dropping off a personal device, you should always wipe the hard drive to remove all your personal data. Once received and unboxed at Redwood, devices stored securely until they are processed, ensuring any remaining personal information is completely destroyed.

How much of the battery is actually recyclable?

Redwood's technology can recover, on average, more than 95% of materials like nickel, cobalt, copper, aluminum, lithium and graphite in a lithium-ion battery. These materials can then go directly back into the supply chain to make batteries for new electric vehicles and energy storage products.

Will Redwood pay for batteries?

At this stage, Redwood does not compensate for consumer devices or batteries through our consumer program. For business partnership inquiries, please contact our Business Development team: business@redwoodmaterials.com

How often can I send in devices or batteries?

There is no limit. You can send as many devices or batteries to us as you like. Please read the packaging requirements for safe shipping.

I want to get more involved in proactively recycling batteries and getting my community educated. Who should I contact?

We're building partnerships and launching initiatives across the country with non-profits, universities, and retail locations to educate communities about the importance of battery recycling and to offer convenient pathways for consumers to drop-off their batteries.

Additional messaging Redwood and the Consumer Program

These talking points underline the crucial role of recycling in promoting sustainability, driving economic value, and enhancing EV accessibility.

Redwood Materials

Redwood Materials is creating a circular supply chain to drive down the environmental footprint and cost of lithium-ion batteries and the electric vehicles and sustainable energy storage systems they power.

Founded by JB Straubel, who previously co-founded and was CTO at Tesla, Redwood produces new battery materials from recycled batteries.

Redwood receives ~20 GWh of end-of-life batteries annually for recycling, which are then refined and remanufactured into critical battery materials.

The company plans to ramp production of cathode components in the U.S. to 100 GWh annually over time, enough to produce more than one million electric vehicles a year.

Why recycle?

Consumer devices contribute to the world's fastest growing waste stream. Americans spend trillions on electronics and discard hundreds of millions of devices every year. Today, only 17 percent of e-waste and less than 5 percent of lithium-ion battery containing devices get recycled. This creates a tremendous opportunity to “urban mine” old products and build new, sustainable products while offsetting our need to terrestrially mine.

Whether a laptop or an electric vehicle, lithium-ion batteries source the same elements on the periodic table. What's perhaps even more incredible is that these metals can be recycled almost infinitely; metal atoms don't change or degrade, and so old devices can become new EVs without any trade-offs to performance or battery life.

Redwood's Consumer Program

We've received tons of interest from the public who want to recycle rechargeable devices and lithium-ion batteries. Our consumer program helps individuals directly send phones, laptops, tablets, power tools and any other device with a battery to Redwood, drop it at a collection location, or meet us at an event around the country.

Additional messaging

Driving sustainability

These talking points underline the crucial role of recycling in promoting sustainability, driving economic value, and enhancing EV accessibility.

Closing the loop

Achieving complete sustainability and affordability in the EV and energy storage sectors involves closing the loop at the end of a product's life. This means recycling batteries, refining recovered metals, and remanufacturing them into critical battery materials, ensuring a circular, domestic battery and EV industry.

Effective recovery

We successfully recover over 95% of critical minerals from batteries, including nickel, cobalt, lithium, and copper. These materials are repurposed into battery components, such as anodes and cathodes, and supplied directly to U.S. battery manufacturers.

Reduction of costs & environmental impact

Our efforts to drive down the cost of EVs and sustainable energy storage and reduce environmental impact involve focusing on reducing material costs through localization and use of recycled content.

In-house innovations

Redwood has developed and continues to enhance a variety of in-house recycling and refining processes. We handle a diverse range of products, from large battery packs to small consumer electronics, requiring a flexible, rather than a one-size-fits-all, approach. Our focus is on creating sustainable, scalable, and cost-effective technologies.

Curbing waste

We highlight the alarming fact that 90-95% of lithium-ion batteries are landfilled globally, resulting in considerable value wastage and environmental harm. Redwood is dedicated to recapturing this waste, transforming discarded batteries into resourceful materials that cut down on the need to mine new materials and help secure our domestic supply chain.

Additional messaging

Operations and technology

These talking points underline the crucial role of recycling in promoting sustainability, driving economic value, and enhancing EV accessibility.

Campus location

Currently, we have two campuses: our first near Reno, Nevada and soon, Charleston, South Carolina. These facilities incorporate recycling, refining, and manufacturing on a single site and located near major markets where we collect old products to recycle and can send new recycled material to battery manufacturers.

Production expansion

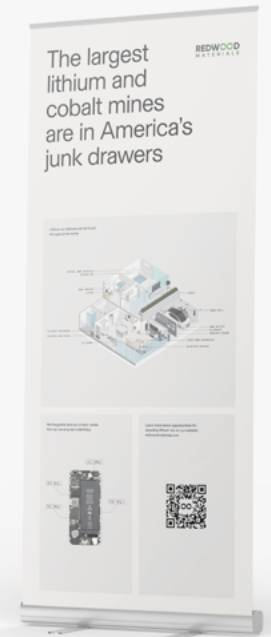
Our aim is to expand the production of critical battery materials across our operations, reaching 100 GWh/year eventually, which is enough to power one million EVs annually.

Process and technology

Our process of recycling is extremely sustainable and utilizes advanced technology to efficiently recovers valuable materials, such as lithium, cobalt, nickel, graphite, manganese and copper, from end-of-life batteries and consumer electronics. On average, we recover more than 95% of critical minerals and use those metals to produce battery components that are supplied back to U.S. battery manufacturers. We employ the best technology in our recycling processes using a zero liquid discharge hydrometallurgy process and 100% renewable electricity without any natural gas or fossil fuels.

Helpful articles and media coverage

Event materials



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Event materials

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Event materials

A-frame sign



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Event materials

Roll up banner

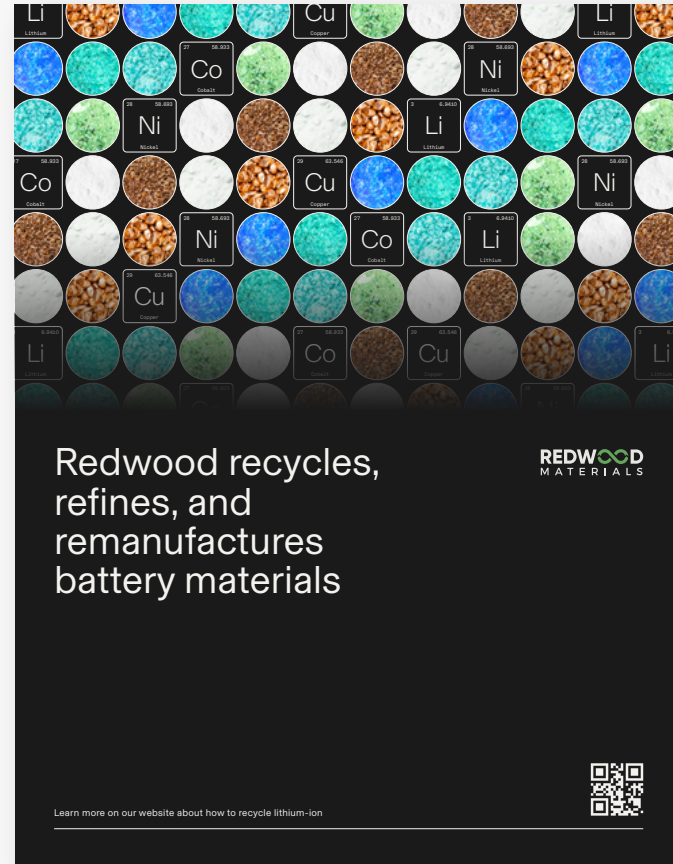
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Event materials

Tabletop signs



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Event materials

Sign in sheet

Sign in

**REDWOOD
MATERIALS**

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Safety & compliance

In this toolkit, we outline our collaboration with partners across the U.S. to educate, engage, and establish convenient recycling pathways for consumer lithium-ion batteries and old devices.

Expanding Redwood's community engagement increases convenience for consumers as they responsibly recycle their old batteries and devices. The collection of electronic waste (e-waste) and lithium-ion battery-containing devices is generally governed by regulations and policies at the federal, state, and local levels.

For instance, at the federal level, end-of-life lithium-ion batteries may be classified as "solid waste" and subjected to the provisions of the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq., and its implementing regulations. The U.S. Environmental Protection Agency regulates the accumulation of "universal wastes," which can include batteries, under rules outlined in 40 C.F.R. Part 273. Additionally, the packaging, shipping, and transportation of lithium-ion batteries are regulated by the U.S. Department of Transportation's Hazardous Materials Regulations at 49 C.F.R. Parts 171-185. The introduction of lithium-ion batteries into the workplace may also trigger obligations under the Occupational Health and Safety Act,

29 U.S.C. § 651 et seq. For example, the U.S. Occupational Health and Safety Administration (OSHA) has published interpretations¹ indicating that certain lithium-ion batteries may be subject to OSHA's Hazard Communication Standard, 29 CFR § 1910.1200.

As we expand our partnerships for nationwide collection, we acknowledge that each collection or event point may be subject to varying rules or guidelines unique to different jurisdictions. Compliance and safety are paramount in our mission, and we expect our partners to uphold high standards concerning these and any other applicable requirements for their collection activities.

Redwood's objective is to provide a frictionless and cost-free collection process for consumer devices, enabling the public to responsibly recycle their old devices and maximize the overall sustainability of all products.

Please feel free to reach out to a member of our team with any questions at

recycle@redwoodmaterials.com

