



U.S. DEPARTMENT OF ENERGY

# Lithium-Ion Battery Recycling Prize

BREAKTHROUGH COMPETITION OFFICIAL RULES



# Preface

The U.S. Department of Energy’s Lithium-Ion Battery Recycling Prize will be governed by 15 U.S.C. § 3719 and this Official Rules document. This is not a procurement under the Federal Acquisitions Regulations and will not result in a grant or cooperative agreement under 2 CFR 200. The Prize Administrator reserves the right to modify this Official Rules document if necessary and will publicly post any such notifications and notify registered prize participants.

Date	Modification

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# 1 | Executive Summary

The U.S. Department of Energy (DOE) American-Made Lithium-Ion Battery Recycling Prize is designed to incentivize American entrepreneurs to develop and demonstrate processes that, when scaled, have the potential to capture and recycle 90% of lithium-based battery technologies in the United States, covering consumer electronics, stationary, and transportation applications. **This continuation of the Lithium-Ion Battery Recycling Prize aims to further the goal of contributing to the recovery target through innovative solutions to current challenges in collecting, sorting, storing, and transporting discarded lithium-ion batteries (LIBs).**

First launched in January 2019, the Lithium-Ion Battery Recycling Prize has awarded a total of \$5.5 million in cash prizes in three phases over approximately 4 years. This prize is sponsored by the Vehicle Technologies Office and Advanced Materials and Manufacturing Technologies Office and administered by the National Renewable Energy Laboratory (NREL). Fifteen winners were selected at the end of Phase I, with each team receiving a \$67,000 cash prize and an invitation to participate in Phase II. Seven winners were selected at the end of Phase II, with each team receiving a \$357,000 cash prize, a noncash voucher up to \$100,000 to support validation and demonstration of their pilot-scale solution, and an invitation to participate in Phase III. Finally, four winners were selected at the end of Phase III to receive a \$500,000 cash prize. The official rules for each of these phases were released separately and are available [on the HeroX prize website](#).

Continuation of the Lithium-Ion Battery Recycling Prize will leverage funds authorized in the Bipartisan Infrastructure Law (BIL) Section 40207(e).<sup>1</sup> DOE is using these funds to administer and award a total of \$7.4 million in cash prizes and voucher support to prize participants over the next 3 years, approximately. This continuation is designed to bolster participation from new competitors while providing additional support to Phase III winning teams.

The continuation of the Lithium-Ion Battery Recycling Prize will begin in 2023 with a 1-year public **Lithium-Ion Battery Recycling Prize Breakthrough** (Breakthrough) contest to incentivize new submissions from battery industry entrepreneurs that demonstrate innovative solutions that meet the goal of the prize. Breakthrough also invites Phase III winners to further develop their concept solutions with the support of additional \$100,000 noncash vouchers to be spent at a Voucher Service Provider (VSP) within the American-Made Network. Voucher work must support the continued validation and demonstration of their Phase III pilot-scale solutions.

Breakthrough winners will be invited to participate in the **Lithium-Ion Battery Recycling Prize Phase IV: Demonstration of Impact** to demonstrate the efficacy of their solutions to establish an infrastructure to move spent or discarded LIBs from consumers to recyclers across all commercial uses. Phase IV of the prize will begin with the Breakthrough winner announcement and last approximately 1.5 years.

## 1.1 Background

While LIB costs have fallen more than 90% since 2008, energy density and performance have rapidly increased, paving the way for an accelerated transition to clean transportation. With the global LIB market projected to experience continued growth over the next decade, DOE is working alongside industry to build a robust and sustainable U.S. LIB supply chain that will support increased market demand.<sup>2</sup> On November 15, 2021, President Joseph R. Biden, Jr. signed the Infrastructure Investment and Jobs Act, also commonly known as the Bipartisan Infrastructure Law. The BIL is a once-in-a-generation investment

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<sup>1</sup> 42 USC 18741

<sup>2</sup> <https://www.energy.gov/articles/biden-administration-announces-316-billion-bipartisan-infrastructure-law-boost-domestic>

in infrastructure, designed to modernize and upgrade American infrastructure to enhance U.S. competitiveness, drive the creation of good-paying union jobs, tackle the climate crisis, and ensure stronger access to economic, environmental, and other benefits for disadvantaged communities.

As part of this effort, the BIL authorized appropriations of up to \$10M within Section 40207(e) to carry out activities consistent with goals of Phase III, which includes research, development, and deployment of technologies to collect, transport, sort, and process end-of-life LIBs and for the potential use of LIBs in second use applications. Additional funding opportunities are available within BIL to accelerate and increase battery recycling rates.<sup>3</sup>

Previous work within the Lithium-Ion Battery Recycling Prize focused on identifying innovative solutions for collecting, sorting, storing, and transporting spent and discarded LIBs—from electric vehicle, stationary energy storage, consumer electronics, and industrial applications—for eventual recycling and materials recovery. Section 40207(e) of the BIL, titled “Lithium-Ion Battery Recycling Prize Competition,” defines the continuation of the Lithium-Ion Battery Recycling Prize for additional rounds after completion of Phase III.<sup>4</sup>

## 1.2 Prize Continuation: Breakthrough Competition

The continuation of the Lithium-Ion Battery Recycling Prize will advance the Phase III winning solutions alongside new proposals to support BIL investments into the LIB supply chain. This continuation will begin with a public **Lithium-Ion Battery Recycling Prize Breakthrough** competition to incentivize new submissions from battery industry entrepreneurs that demonstrate innovative solutions that work toward or deliver on the goal of the prize. In addition, Breakthrough invites Phase III winners to further develop their concept solutions with the added support of a \$100,000 noncash voucher to be spent at a VSP within the American-Made Network. Voucher work must support the continued validation and demonstration of their Phase III pilot-scale solutions.



Breakthrough will kick-off in 2023 with two competition tracks—**Track 1: New Competitors** and **Track 2: Verified Competitors**—lasting approximately 1 year. Track 1 will encourage legal business entities based in the United States to participate in Breakthrough as new competitors with single process ideas, partial solutions or full concept solutions that enable or meet the prize goal. Track 1 is open to new participants and previous competitors of the Lithium-Ion Battery Recycling Prize. A single business entity may participate as a new competitor, or teams may be comprised of multiple businesses. Running

<sup>3</sup> <https://www.whitehouse.gov/briefing-room/statements-releases/2022/10/19/fact-sheet-biden-harris-administration-driving-u-s-battery-manufacturing-and-good-paying-jobs/#:~:text=The%20Bipartisan%20Infrastructure%20Law%20alone,to%20meet%20our%20climate%20goals>

<sup>4</sup> <https://eere-exchange.energy.gov/Default.aspx#Foald1b505245-04d8-4b2a-bfab-46c5c8ad2de9>

simultaneously, Track 2 invites Phase III winners to compete in Breakthrough as verified competitors with unique goals designed to nurture further development of the existing winning concept solutions.

Breakthrough will award up to \$1.2 million total in cash prizes to up to six teams within Track 1: New Competitors and up to \$800,000 total in cash prizes and \$100,000 in voucher funding to up to four teams within Track 2: Verified Competitors. In total, the Breakthrough competition will award up to \$2.4 million in prizes to up to 10 winners.

In addition, Track 1 and Track 2 Breakthrough winners will be invited to participate in the **Lithium-Ion Battery Recycling Prize Phase IV: Demonstration of Impact** to demonstrate how effectively their solution contributes to establishing infrastructure to move spent or discarded LIBs from consumers to recyclers across all commercial uses. Phase IV teams will work alongside approved Evaluation Entities (see Section 1.3) to verify the impact of their submission based on the recovered LIBs or validation of second use. Phase IV will last approximately 1.5 years, kicking off with the announcement of Breakthrough winners. Phase IV of the prize will award up to \$3 million cash prizes distributed equally among up to four “Runner Up” teams, as well as a Grand Prize award of \$1 million to a single team, for a total of up to \$4 million in cash prizes. Phase IV participants will receive up to \$100,000 in noncash vouchers to use in Phase IV alongside a pre-identified Evaluation Entity, for a total of ~\$5 million in prizes.

**Table 1. Cash Prizes**

Contest	Track	Prizes
<b>Breakthrough</b>	Track 1: New Competitors	Up to \$1.2 million cash prizes distributed equally among up to six teams.
	Track 2: Verified Competitors	Up to \$800,000 cash prizes distributed equally among up to four Phase III winning teams.
<b>Phase IV: Demonstration of Impact</b>	Both Track 1 and Track 2	\$1 million cash prize awarded to a single “Grand Prize” winner and up to \$3 million cash prizes distributed equally among up to four “Runner Up” teams. Two “Runner Up” teams will be selected per track.

Cash prizes are paid to the team captain upon receipt of Internal Revenue Service (IRS) Form W-9 and Automated Clearing House (ACH) banking information.

## 1.3 Vouchers and Evaluation Entities

The continuation of this prize will also encourage collaboration between participating teams and industry members and recyclers through the use of noncash vouchers. The provided vouchers will allow participating teams to access tools, equipment, and expertise at national labs and approved facilities and organizations within the American-Made Network. DOE’s 17 national labs, together with the approved organizations and facilities, are referred to as Voucher Service Providers (VSPs). Private organizations are encouraged to apply with the American-Made Network as soon as possible to become VSPs.

Phase III winning teams that join Breakthrough as Track 2 (verified) competitors will be granted up to \$100,000 in the form of noncash vouchers to work with VSPs to support the continued validation and demonstration of their pilot-scale solutions. To receive these vouchers, Track 2 competitors must provide

a final statement of work and itemized budget as part of a progress update, due within 60 days of the Breakthrough competition announcement. Track 1 (new) competitors will not receive vouchers during the Breakthrough competition but will be eligible for vouchers in Phase IV.

In addition to the cash prize from winning Breakthrough, teams participating in Phase IV will receive up to \$100,000 in noncash vouchers to apply specifically to pre-identified “Evaluation Entities” as determined in the Breakthrough final submissions. Evaluation Entities are LIB recyclers and testing organizations that have demonstrated necessary capabilities and capacity to play a key role in the validation and evaluation of concept solutions and have already been approved as a VSP. To become an Evaluation Entity for Phase IV, qualified recyclers must be equipped to handle the assessment of LIB material incoming from teams they intend to work with. For second-use applications, teams can refer to approved testing organizations.

**Table 2. Noncash Vouchers**

Contest	Track	Prizes
<b>Breakthrough Competition</b>	Track 1: New Competitors	Not applicable.
	Track 2: Verified Competitors	Phase III winning teams will be granted up to \$100,000 in noncash vouchers to be used during the Breakthrough competition.
<b>Phase IV: Demonstration of Impact</b>	Both Track 1 and Track 2	Phase IV participants will receive up to \$100,000 in noncash vouchers to use in Phase IV alongside a pre-identified Evaluation Entity.

## How to Become a VSP or Evaluation Entity

To be approved as a VSP, including a pre-identified VSP Evaluation Entity, private organizations and facilities must first apply on the [American-Made website](#). The following must be described:

- Description of services offered
- Website
- Location of business
- History of business
- Examples of success with previous customers in the area of services that the organization is offering here.

The Prize Administrator, at its sole discretion, determines whether non-national-lab organizations may become an approved VSP. The Prize Administrator will review applications to become an approved VSP, which must establish, at a minimum, that:

- The entity is an incorporated U.S. business that has been in existence for at least 12 months at the time the application is submitted.
- The entity has an active website that describes the organization’s capabilities.
- The entity offers capabilities, facilities, and services that are broadly available to interested parties.

- The business entity has a history of success in producing, developing, testing, validating, prototyping, and manufacturing products and solutions.

Eligible VSPs can take their application a step further to become an approved Evaluation Entity to support Phase IV of the prize. Once approved as a VSP, businesses can apply to become approved Evaluation Entities. More information about the Evaluation Entities application will be released prior to the Industry Collaboration Event.

Eligible recyclers must meet all U.S. Environmental Protection Agency and state requirements, specifically requirements for universal and hazardous waste and Resource Conservation and Recovery Act (RCRA) laws and regulations as applicable. The end recycling facility must be located in the United States. Evaluation Entities are ineligible to compete as prize participants.

## 1.4 Diversity, Equity, and Inclusion

It is the policy of the Biden administration that:

“The federal government should pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality. Affirmatively advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the whole of our government. Because advancing equity requires a systematic approach to embedding fairness in decision-making processes, executive departments and agencies must recognize and work to redress inequities in their policies and programs that serve as barriers to equal opportunity. By advancing equity across the federal government, we can create opportunities for the improvement of communities that have been historically underserved, which benefits everyone.”

As part of this whole-of-government approach, this prize seeks to encourage the participation of disadvantaged communities and underrepresented groups. Teams are highly encouraged to include individuals from groups historically underrepresented in science, technology, engineering, and mathematics (STEM) on their project teams. Teams are also highly encouraged to consider project concepts aligned with *Executive Order 14008: Tackling the Climate Crisis at Home and Abroad*<sup>5</sup> and the Justice40 Initiative.<sup>6</sup> Under the Justice40 Initiative, implementation efforts of this and other covered programs will support the goal that 40% of the overall benefits flow to disadvantaged communities.

Further, minority-serving institutions, minority business enterprises, minority-owned businesses, woman-owned businesses, veteran-owned businesses, or entities located in an underserved community that meet the eligibility requirements are encouraged to participate in this competition. The Judging Committee may consider the inclusion of these types of entities as part of the selection decision.

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<sup>5</sup> <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>

<sup>6</sup> The Justice40 Initiative, established by Executive Order 14008, set a goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities. The interim guidance defines benefits as direct and indirect investments (program outcomes) that positively impact disadvantaged communities and provides examples starting on page 4—see “Addendum to the Interim Implementation Guidance for the Justice40 Initiative” (January 27, 2023), [https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09\\_Signed\\_CEQ\\_CPO.pdf](https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09_Signed_CEQ_CPO.pdf)



## 2 | Breakthrough Contest Structure

Breakthrough is designed to bolster participation from competitors and Evaluation Entities in the forthcoming Phase IV. Breakthrough submissions must fall within one of two competition tracks: verified competitors or new competitors.

**Table 3. Breakthrough Contest Structure**

<b>Event Timing</b>	<b>Description and What to Submit</b>	<b>Requirement</b>
<b>Breakthrough Contest Announcement</b>	Phase III winning teams will be notified of “verified competitor” eligibility.	N/A
<b>Virtual Kickoff Event</b> <i>Within 4 weeks of announcement.</i>	Meet with Prize Administrator and learn about Breakthrough and Phase IV.	All Tracks – Voluntary
<b>Breakthrough Intent to Participate</b> <i>Within 4 weeks of announcement.</i>	Register on HeroX.	Track 1 – N/A Track 2 – Mandatory
<b>Voucher Application and Progress Update</b> <i>Approx. 8 weeks after announcement.</i>	Phase III winning teams must provide a progress update, project plan, and voucher application.	Track 1 – N/A Track 2 – Mandatory
<b>Industry Collaboration Event</b> <i>To be determined</i>	Opportunity to collaborate with other industry members and partners.	All Tracks – Voluntary
<b>Evaluation Entity Application Opens</b> <i>Approx. 3 months after announcement.</i>	Eligible businesses may apply to become an approved VSP and Evaluation Entity to support Phase IV of the prize.	All Tracks – Voluntary
<b>Breakthrough Final Submission</b> <i>Approx. 12 months after announcement.</i>	Submit written narrative on HeroX.	All Tracks – Mandatory
<b>Breakthrough Participants Day</b> <i>Approx. 4 weeks after final submission.</i>	Provide 30-minute virtual presentation.	All Tracks – Mandatory
<b>Breakthrough Winner Announcement</b>	DOE announces Breakthrough winners and initiation of Phase IV.	N/A
<b>Phase IV Kickoff Event</b> <i>Within 4 weeks of Breakthrough winner announcement.</i>	Meet with Prize Administrator. Breakthrough winning submissions are eligible to participate in Phase IV.	N/A

## 2.1 Track 1: New Competitors

To incentivize fresh ideas from battery industry entrepreneurs that demonstrate new solutions that work toward the goals of the prize, Breakthrough invites new submissions from battery industry entrepreneurs as new competitors. New submissions must provide an innovative proposal and validated proof of concept that enables process improvement in the recovery of LIBs or addresses barriers within the domestic LIB supply chain. Track 1 submissions may address one or more steps within the end-to-end recycling supply chain, including collecting, sorting, storing, and transporting spent LIBs.

New competitors can include nonwinning teams from prior phases of the Lithium-Ion Battery Recycling Prize or eligible innovators entirely new to this prize program. New competitor teams are not required to comprise multiple business entities and may be a single entity that meets the eligibility requirements. Up to six Track 1 teams will be awarded a cash prize award of up to \$200,000 at the end of Breakthrough, according to specific Track 1 scoring criteria.

### Track 1 Milestones:

1. **Industry Collaboration Event (Voluntary):** New competitors are invited to join an event identified by the Prize Administrators, to network with industry professionals, VSPs, and potential Evaluation Entities.
2. **Breakthrough Final Submission (Mandatory):** Online submissions of Breakthrough progress and documented results will be due at the end of the 12-month contest phase, to be determined by the Prize Administrator. Requirements for the online submissions are defined in Section 3: What to Submit” and will be evaluated according to the Track 1: Scoring Criteria.
3. **Breakthrough Participants Day (Mandatory):** In addition to online submissions, teams will provide a 30-minute live presentation to the Prize Administrator after the final submission deadline, to be determined by the Prize Administrator.

## 2.2 Track 2: Verified Competitors

Phase III winners are invited to join Breakthrough as verified competitors. These Track 2 participants will receive up to \$100,000 as a noncash voucher to support continued validation of their pilot-scale solution from Phase III. In this continuation, verified competitors must demonstrate the continued implementation of their solution within the marketplace and include market analysis to identify roadblocks and opportunities to future growth.

Within 30 days after the Breakthrough announcement, eligible verified competitors must register their intent to participate to be eligible for continued participation. Track 2 participants will also be required to submit a progress update and voucher application within 60 days after the Breakthrough announcement. The voucher application package must include a summary of work conducted since Phase III Final Submission, plans for expansion of the concept, identified VSPs, a proposed statement of work, a short narrative on how the work will address Phase III feedback to improve upon the concept, and agreement to voucher use terms.

Once approved, verified competitors will have approximately 1 year to conduct the voucher work. There will also be an opportunity to present at an industry collaboration event. Teams will be required to provide a written summary of accomplishments and results at the end of Breakthrough. The Track 2 Breakthrough Submission should demonstrate the projected impact of the solution at full scale, commercially available operation as proposed. Up to four Track 2 teams will be eligible to win a cash prize award of up to \$200,000 at the end of Breakthrough, according to specific Track 2 scoring criteria.

The four Phase III winning teams that are eligible to compete as verified competitors are:

- **Li Industries** (Blacksburg, Virginia)
- **Renewance** (Chicago, Illinois)
- **Smartville** (San Diego, California)
- **Titan Advanced Energy Solutions** (Salem, Massachusetts)

## Track 2 Milestones:

1. **Intent to Participate (Mandatory):** To become “verified competitors” and participate in the Breakthrough contest, Phase III winning teams must register online at HeroX and submit their intent to participate within 30 days after the Breakthrough announcement.
2. **Voucher Application and Progress Update (Mandatory):** Verified competitors must provide an update on the current status and project plan for their Phase III winning concept solution. The progress update deadline will be approximately 60 days after the Breakthrough announcement. Requirements for the progress update are defined in Section 3: What To Submit.
3. **Industry Collaboration Event (Voluntary):** Verified competitors will be invited to join an event that will be identified by the Prize Administrator, to network with VSPs and potential Evaluation Entities.
4. **Breakthrough Final Submission (Mandatory):** Online submissions of Breakthrough progress and documented results will be due at the end of the 12-month contest phase, to be determined by the Prize Administrator. Requirements for the online submissions are defined in Section 3: What to Submit and will be evaluated according to the Track 2: Scoring Criteria.
5. **Breakthrough Participants Day (Mandatory):** In addition to online submissions, teams will provide a 30-minute live presentation to the Prize Administrator after the final submission deadline, to be determined by the Prize Administrator.

# 3 | What to Submit

Go to HeroX and follow the instructions to register and submit all required materials before the listed deadlines. Templates are available for all submission criteria. The site URL is:

<https://www.herox.com/BatteryRecyclingPrize>.

## 3.1 Track 1: New Competitors

### Track 1: Breakthrough Submission

Submit a 20-page maximum written narrative and 90-second (maximum) video, which includes the components below. All assumptions used in documentation, analysis, modeling, and simulation must be explicitly stated. The cover page does not count toward page limits.

1. **Cover page:** A short introduction to your solution to be shared publicly.
  - Team name
  - Team leader and partners
  - Evaluation Entity
  - Submission title
  - <100-word abstract
2. **Executive summary:** A high-level overview of your submission, including a summary of your concept approach and how the end-to-end solution will contribute toward the prize goal.
3. **Detailed technical explanation of proposal:** Describe how your solution and approach, including the stage of development at the time of submission, any relevant intellectual property, supporting analyses, or results that support any assertions made regarding the validity or functionality of your proposed solution. Please include:
  - Schematics, drawings, or sketches, if applicable
  - Initial battery characterization data, logistics and battery movement, process description, digital platform concepts
  - Business plan, to include how concepts plan to scale their work to achieve profitability
    - i. Financial analysis should be provided to show how competitors will demonstrate a positive revenue stream.
  - Market overview, to include:
    - i. evidence of market analysis,
    - ii. customer discovery,
    - iii. consumer interest, and/or
    - iv. buy-in from potential partners of the proposed approach.
  - Attachments (will not count toward the page limit)
    - i. Bibliography/citations
    - ii. Proof of compliance with any permitting or environmental regulations or requirements
4. **Evaluation Entity:** Identify an Evaluation Entity and describe plans to scale in Phase IV. Evaluation Entities are ineligible to compete as prize participants and should not be considered part of the prize team or resources.
5. **Team and resources:** Provide individual member CVs and team experience and qualifications, external advisers (e.g., a board), or external sponsorship and established partnerships, and possible VSPs. Include the roles and responsibilities of each party. The team composition should demonstrate the capability to successfully implement the proposed pilot-scale end-to-end solution. If applicable, provide letters of commitment from established partnerships indicating

support from the organizational leadership (i.e., business letterhead) stating their role of partnership, agreed commitments, and contact information.

*CVs and partner descriptions should be limited to one page per team member and will not count toward the page limit.*

6. **Video:** Provide a 90-second (maximum) recorded video showcasing your solution. Be creative and produce a video that conveys your information in exciting and interesting ways but do not focus on time-consuming activities that only improve production values (e.g., technical elements such as décor, lighting, and cinematic techniques). The video should include the following, as applicable:
  - Video of physical testing
  - Video of any software or app that supports the solution
  - Presentation of business plan
  - Proposed process and/or business model
  - Interviews with potential customers, partners, or stakeholders.

## Track 1: Breakthrough Participants Day

Breakthrough participants will have at least one team representative provide a 30-minute virtual presentation to DOE representatives that includes a robust overview of their solution. The presentation must include:

- Illustration and explanation of concept and validation
- Identified Evaluation Entity
- Established partnership(s) and resources.

Breakthrough participants will be allocated a total of 60 minutes (30-minute presentation followed by 30 minutes for questions) for their presentation and questions from reviewers on their designated presentation day.

## Track 1: Scoring Criteria

Breakthrough participants' online submissions and presentations will be scored based on the metrics below. Each scoring category will receive a score from 0 to 6. The categories have defined weights. Scores will reflect both the review of the online submission and the in-person presentation.

Prize Administrators will evaluate the submissions and presentations by agreeing or disagreeing with the scoring category statements on a 0–6 scale, as shown below.

0	1	2	3	4	5	6
Not Demonstrated	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

### Track 1 Scoring Categories

1. **Innovativeness (30%):**
  - Represents a unique, innovative approach to meeting prize goals or significantly advances an existing idea, process, or technology.
  - Submission includes documented understanding of current state of the art and demonstrates how the concept furthers LIB recovery rates as a process improvement or end-to-end solution.

## 2. Feasibility (45%):

- Proposed annual recovery capacity is supported by credible calculations and assumptions via techno-economic analysis or life cycle analysis modeling.
- Likelihood of making a substantial contribution toward the recovery rate for LIBs and degree to which scale-up plan is credible.
- Submission should address the following questions within the proposal:
  - i. Is there a plan for technological validation (e.g., demonstration or simulation)?
  - ii. Are necessary resources (e.g., instrumentation or facilities) identified?
  - iii. Does the team background/composition reflect needed expertise?
  - iv. How well does the proposal describe a profitable business model?
  - v. How does this concept integrate within collecting, sorting, storing, and transporting end-of-life LIBs for recovery?
- As appropriate, address reviewer comments from Phase III submissions.

## 3. Evaluation Entity (25%):

- Team has identified and confirmed proposed validation plan with a VSP Evaluation Entity with the appropriate process and capabilities to evaluate the concept impact and contribution to LIB recovery rates.
- Submission outlines an evaluation plan to conduct the validation and provide required feedback documentation in Phase IV, as applicable.

Final determination of winners will include the Prize Administrators' final scores of the Breakthrough submission package and program policy factors.

## 3.2 Track 2: Verified Competitors

### Track 2: Intent to Participate

Register online at HeroX in order to submit the contest requirements. The four Phase III winning teams that are eligible to compete as verified competitors are:

- Li Industries
- Renewance
- Smartville
- Titan Advanced Energy Solutions.

### Track 2: Voucher Application and Progress Update

Verified competitors must provide an update on their Phase III winning solution and apply for voucher funds. A complete progress update package must include:

1. **Progress Update:** A written narrative outlining the current status and progress of their winning solution compared to their Phase III final submission.
2. **Voucher Application:** A finalized negotiated statement of work and itemized budget for VSPs you plan to work with, along with finalized contracts and agreement to voucher use terms as outlined in the updated voucher guidelines.
3. **Project Plan:** A short written narrative on how the work with VSPs will address Phase III feedback to improve upon the solution.

## Track 2: Breakthrough Submission

Submit a 20-page (maximum) written narrative and 90-second maximum video, which include the components listed below. All assumptions used in documentation, analysis, modeling, and simulation must be explicitly stated. The cover page does not count toward page limits.

1. **Cover page:** A short introduction to your solution to be shared publicly.
  - Team name
  - Team leader and partners
  - Evaluation Entity
  - Submission title
  - <100-word abstract
2. **Executive summary:** A high-level overview of your submission, including a summary of your concept approach and how the end-to-end solution will contribute toward the prize goal.
3. **Detailed technical explanation of concept progression:** Describe how your concept advanced and what was achieved in the Breakthrough contest, including further validation and demonstration of the solution.
  - Report on activities and results, such as:
    - i. Battery characterization data,
    - ii. Logistics and battery movement,
    - iii. Process updates,
    - iv. Expanded digital platforms and traffic, and/or
    - v. Data entry.
  - Market overview, to include:
    - i. evidence of market analysis,
    - ii. description of how this solution fits within the existing marketplace,
    - iii. challenges and opportunities,
    - iv. customer discovery,
    - v. consumer interest, and/or
    - vi. buy-in from potential partners.
  - Attachments (will not count toward the page limit)
    - i. Bibliography/citations
    - ii. Proof of compliance with any permitting or environmental regulations or requirements
4. **Use and results of voucher funds:** Describe how voucher funds received during Breakthrough were used within this phase of the competition to further your Phase III winning submission. Include results that demonstrate the advancements to your concept.
5. **Techno-economic analysis:** Include a complete techno-economic analysis to demonstrate the economic impact and performance of your recovery process. Include the costs, benefits, risks, uncertainties, and time frames that may impact the economic viability of the concept solution.
6. **Evaluation Entity:** Identify an Evaluation Entity and describe plans to scale in Phase IV. Evaluation Entities are ineligible to compete as prize participants and should not be considered part of the prize team or resources.
7. **Team and resources:** Provide individual member CVs and team experience and qualifications, external advisers (e.g., a board), or external sponsorship and established partnerships, and possible VSPs. Include the roles and responsibilities of each party. The team composition should demonstrate the capability to successfully implement the proposed pilot-scale end-to-end solution. If applicable, provide letters of commitment from established partnerships on official partner documentation (i.e., business letterhead) stating their role of partnership, agreed

commitments, and contact information.

*CVs and partner descriptions should be limited to one page per team member and will not count toward the page limit.*

- 8. Video:** Provide a 90-second (maximum) video showcasing the progression, advantages, and impact of your solution. Be creative and produce a video that conveys your information in exciting and interesting ways but do not focus on time-consuming activities that only improve production values (e.g., technical elements such as décor, lighting, and cinematic techniques). The video should include the following, as applicable:
- Supporting proof of progression of concept
  - Video of physical testing
  - Video of any software or app that supports the solution
  - Interviews with potential customers, partners, or stakeholders.

## Track 2: Breakthrough Participants Day

Breakthrough participants must have at least one team representative provide a 30-minute virtual presentation to DOE representatives that includes a robust overview of their solution progress. The presentation must include:

- Review of voucher work performed
- Summary of the end-to-end solution with the updated estimated impact at full scale
- Proof-of-concept advancement
- Techno-economic analysis
- Established partnership(s) and resources
- Identified Evaluation Entity.

Breakthrough participants will be allocated a total of 60 minutes (30-minute presentation followed by 30 minutes for questions) for their presentation and questions from reviewers on their designated presentation day.

## Track 2: Scoring Criteria

Breakthrough participants' online submissions and presentations will be scored based on the metrics below. Each scoring category will receive a score from 0 to 6. The categories have defined weights. Scores will reflect both the review of the online submission and the in-person presentation.

Prize Administrators will evaluate the submissions and presentations by agreeing or disagreeing with the scoring category statements on a 0–6 scale, as shown below.

0	1	2	3	4	5	6
Not Demonstrated	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

### Track 2 Scoring Categories

- 1. Impact (40%):**
- The estimated annual recovery capacity at full scale is supported by pilot validation results, as well as credible calculations and assumptions via techno-economic analysis or life cycle analysis modeling.



- The pilot validation results demonstrate a high level of functionality and feasibility for the solution at full scale and will significantly contribute to LIB recovery rates.
- 2. Expansion of Concept (35%):**
- Provide proof of progression of concept that supports the estimated recovery rate of the LIB commercial use at full scale.
  - The market transformation plan demonstrates a high level of functionality and feasibility to successfully bring the concept to full scale.
  - As appropriate, address reviewer comments from Phase III submissions.
- 3. Evaluation Entity (25%):**
- Team has identified and confirmed proposed validation plan with a VSP Evaluation Entity with the appropriate process and capabilities to evaluate the concept impact and contribution to LIB recovery rates.
  - Submission outlines an evaluation plan to conduct the validation and provide required feedback documentation in Phase IV, as applicable.

Final determination of winners will include the reviewers' final scores of the Breakthrough submission package and program policy factors included in the Appendix.

# 4 | Eligibility Requirements

## 4.1 How to Enter

Register and complete a submission package online at <https://www.herox.com/BatteryRecyclingPrize>.

## 4.2 Supporting Roles

Successful Breakthrough contest proposals will involve collaboration between teams, partners, and stakeholders to meet LIB recovery goals. The roles within this prize include:

- **Participants:** An individual or a team comprised of individuals identified as team members in the submission package. Participants must meet all eligibility requirements outlined in Section 4.3: Who Can Win.
- **Partners:** External advisors, sponsors, or established partnerships who are committed to supporting the proposed solution and identified as partners in the submission package. Partners must meet all eligibility requirements outlined in Section 4.3: Who Can Win.
- **VSPs:** Approved organizations and facilities, including DOE's 17 national laboratories, within the American-Made Network who use voucher funds to provide tools, equipment, and expertise. More information about becoming a VSP is available in Section 1.3: Vouchers and Evaluation Entities.
- **Evaluation Entities:** Approved LIB recyclers and testing organizations identified in the Breakthrough submission package to support the validation and evaluation of concept solutions in Phase IV. More information about becoming an Evaluation Entity is available in Section 1.3: Vouchers and Evaluation Entities.

## 4.3 Who Can Win

To win the Breakthrough contest, participants must comply with the following eligibility requirements. By uploading a submission package, a participant certifies that they comply with the eligibility requirements below. As soon as the Prize Administrator becomes aware that a participant is not eligible to win the Phase III contest, the participant may be disqualified.

- Breakthrough participants must be a team led by a legal business entity formed under state law or the laws of the United States, such as a corporation or other organization that maintains a primary place of business in the United States with majority domestic ownership and control. If a private entity seeking to compete does not have domestic ownership and control, DOE may consider issuing a waiver of this requirement. Entities seeking a waiver should include a justification along with their submission. DOE may require additional information before making a determination on the waiver request. There are no rights to appeal DOE's decision on the waiver request. See Appendix: Additional Terms and Conditions for details and instructions on seeking a waiver.
- DOE employees and DOE support service contractors, individuals who have been employed by DOE, or individuals working for DOE as a support service contractor within 6 months prior to the submission deadline of the Breakthrough contest are not eligible to participate in any prize contests in this program.
- NREL employees directly involved in the administration of the prize are not eligible to participate in any prize contest in this program. Receipt of voucher funds is not considered participation in this prize program.

- NREL employees not involved in the administration of the prize and all other national lab employees, including laboratory researchers, may participate as private individuals, provided they do not use their facilities at the national laboratories.
- Non-DOE federal entities and federal employees are also not eligible to win any prize contests in this program.
- Federal grantees may not use federal funds to develop submissions.
- Federal contractors may not use federal funds from a contract to develop prize competition submissions or fund efforts in support of a prize competition submission.
- A participating entity shall not be deemed ineligible because the entity used federal facilities or consulted with federal employees during a competition if the facilities and employees are made available to all entities participating in the competition on an equitable basis.
- Evaluation Entities are ineligible to compete as prize participants.
- Individuals participating in a foreign government talent recruitment program<sup>7</sup> sponsored by a country of risk<sup>8</sup> and teams that include such individuals are not eligible to compete.
- Entities owned by, controlled by, or subject to the jurisdiction or direction of a government of a country of risk.
- Entities and individuals publicly banned from doing business with the U.S. government, such as entities and individuals debarred, suspended, or otherwise excluded from or ineligible for participating in Federal programs, are not eligible to compete.

DOE may conduct a risk review, through Government resources, of the competitor and project personnel to identify potential risks of foreign interference. The result(s) of a risk review may supersede the results of the prize competition, preventing DOE from selecting a submission or reversing a selection of a submission for a prize. The results of a risk review are not appealable.

Only the Phase III winners are eligible to compete and win cash awards in Track 2 of the Breakthrough competition. At least one Breakthrough contest winner must be a listed team member on each team,

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<sup>7</sup> Foreign Government-Sponsored Talent Recruitment Program is defined as an effort directly or indirectly organized, managed, or funded by a foreign government, or a foreign government instrumentality or entity, to recruit science and technology professionals or students (regardless of citizenship or national origin, or whether having a full-time or part-time position). Some foreign government-sponsored talent recruitment programs operate with the intent to import or otherwise acquire from abroad, sometimes through illicit means, proprietary technology or software, unpublished data and methods, and intellectual property to further the military modernization goals and/or economic goals of a foreign government. Many, but not all, programs aim to incentivize the targeted individual to relocate physically to the foreign state for the above purpose. Some programs allow for or encourage continued employment at United States research facilities or receipt of federal research funds while concurrently working at and/or receiving compensation from a foreign institution, and some direct participants not to disclose their participation to U.S. entities. Compensation could take many forms including cash, research funding, complimentary foreign travel, honorific titles, career advancement opportunities, promised future compensation, or other types of remuneration or consideration, including in-kind compensation.

<sup>8</sup> DOE has designated the following countries as foreign countries of risk: Iran, North Korea, Russia, and China. This list is subject to change.

defined as a listed team member on a winning Phase III submission. However, a Phase III winner does not have to lead the team.

## 4.4 General Submission Requirements

Only submissions relevant to the goals of this program are eligible to compete. The Prize Administrator must conclude that all of the following statements are **true** when applied to a submission:

- The proposed solution is related to LIB recycling.
- Activities that are described in and support the submission package are performed in the United States.
- The proposed solution represents an innovation that will move the LIB recycling industry beyond its current state.
- The proposed solution does not involve the lobbying of any federal, state, or local government office.
- The proposed solution is not dependent on new, pending, or proposed federal, state, or local government legislation, resolutions, appropriations, measures, or policies.
- The proposed solution is based on fundamental technical principles and is consistent with a basic understanding of the U.S. market economy.

**COMPETITORS THAT DO NOT COMPLY WITH THE ADDITIONAL REQUIREMENTS IN THE APPENDIX MAY BE DISQUALIFIED.**

# Appendix: Additional Terms and Conditions

## A.1 Requirements

Your submission for any contests within the Lithium-Ion Battery Recycling Prize is subject to the following terms and conditions:

- You must post the final content of your submission by the deadlines established by the Prize Administrator/U.S. Department of Energy (DOE). Late submissions or any other form of submission may be rejected.
- All submissions that you wish to protect from public disclosure must be marked according to the instructions in Section A.10. Unmarked or improperly marked submissions will be deemed to have been provided with unlimited rights and may be used in any manner and for any purpose whatsoever.
- You must include all the required elements in your submission. The Prize Administrator may disqualify your submission after an initial screening if you fail to provide all required submission elements. Competitors may be given an opportunity to rectify submission errors due to technical challenges.
- Your submission must be in English and in a format readable by Microsoft Word or Adobe PDF. Scanned handwritten submissions will be disqualified.
- Submissions will be disqualified if they contain any matter that, in the sole discretion of DOE or the National Renewable Energy Laboratory (NREL), is indecent, obscene, defamatory, libelous, and/or lacking in professionalism, or demonstrates a lack of respect for people or life on this planet.
- If you click “Accept” on the HeroX platform and proceed to register for any of the prizes described in this document, these rules will form a valid and binding agreement between you and DOE and are in addition to the existing HeroX Terms of Use for all purposes relating to these contests. You should print and keep a copy of these rules. These provisions only apply to the prize described here and no other prize on the HeroX platform or anywhere else.
- The Prize Administrator, when feasible, may give competitors an opportunity to fix nonsubstantive mistakes or errors in their submission packages.
- As part of your submission to this prize, you will be required to sign the following statement:

*I am providing this submission package as part of my participation in this prize. I understand that I am providing this submission to the federal government. I certify under penalty of perjury that the named competitor meets the eligibility requirements for this prize competition and complies with all other rules contained in the Official Rules document. I further represent that the information contained in the submission is true and contains no misrepresentations. I understand false statements or misrepresentations to the federal government may result in civil and/or criminal penalties under 18 U.S.C. § 1001 and § 287 and 31 U.S.C. §§ 3729-3733 and 3801-3812.*

## A.2 Verification for Payments

The Prize Administrator will verify the identity and role of all competitors before distributing any prizes. Receiving a prize payment is contingent upon fulfilling all requirements contained herein. The Prize Administrator will notify winning competitors using provided email contact information for the individual or entity that was responsible for the submission. Each competitor will be required to sign and return to the Prize Administrator, within 30 days of the date on the notice, a completed NREL Request for ACH Banking

Information form and a completed W-9 form (<https://www.irs.gov/pub/irs-pdf/fw9.pdf>). In the sole discretion of the Prize Administrator, a winning competitor will be disqualified from the competition and receive no prize funds if (1) the person/entity does not respond to notifications, (2) the person/entity fails to sign and return the required documentation within the required time period, (3) the notification is returned as undeliverable, or (4) the submission or person/entity is disqualified for any other reason.

In the event of a dispute as to any registration, the authorized account holder of the email address used to register will be deemed to be the competitor. The “authorized account holder” is the natural person or legal entity assigned an email address by an internet access provider, online service provider, or other organization responsible for assigning email addresses for the domain associated with the submitted address. All competitors may be required to show proof of being the authorized account holder.

## A.3 Teams and Single-Entity Awards

The Prize Administrator will award a single dollar amount to the designated primary submitter, whether it consists of a single or multiple entities. The primary submitter is solely responsible for allocating any prize funds among its member competitors or teammates as they deem appropriate. The Prize Administrator will not arbitrate, intervene, advise on, or resolve any matters or disputes between team members or competitors.

## A.4 Submission Rights

By making a submission and consenting to the rules of the contest, a competitor is granting to DOE, the Prize Administrator, and any other third parties supporting DOE in the contest a license to display publicly and use the parts of the submission that are designated as “public” for government purposes. This license includes posting or linking to the public portions of the submission on the Prize Administrator or HeroX applications, including the contest website, DOE websites, and partner websites, and the inclusion of the submission in any other media worldwide. The submission may be viewed by DOE, the Prize Administrator, and judges and reviewers for purposes of the contests, including but not limited to screening and evaluation purposes. The Prize Administrator and any third parties acting on their behalf will also have the right to publicize competitors’ names and, as applicable, the names of competitors’ team members and organizations who participated in the submission on the contest website indefinitely.

By entering, the competitor represents and warrants that:

1. The competitor’s entire submission is an original work by the competitor, and the competitor has not included third-party content (such as writing, text, graphics, artwork, logos, photographs, likenesses of any third party, musical recordings, clips of videos, television programs or motion pictures) in or in connection with the submission, unless (i) otherwise requested by the Prize Administrator and/or disclosed by the competitor in the submission, and (ii) the competitor has either obtained the rights to use such third-party content, or the content of the submission is considered to be in the public domain without any limitations on use.
2. Unless otherwise disclosed in the submission, the use thereof by the Prize Administrator, or the exercise by the Prize Administrator of any of the rights granted by the competitor under these rules, does not and will not infringe or violate any rights of any third party or entity, including, without limitation, patent, copyright, trademark, trade secret, defamation, privacy, publicity, false light, misappropriation, intentional or negligent infliction of emotional distress, confidentiality, or any contractual or other rights.
3. All persons who were engaged by the competitor to work on the submission or who appear in the submission in any manner have:

- a. Given the competitor their express written consent to submit the submission for exhibition and other exploitation in any manner and in any and all media, whether now existing or hereafter discovered, throughout the world.
- b. Provided written permission to include their name, image, or pictures in or with the submission (or, if a minor who is not competitor's child, competitor must have the permission of the minor's parent or legal guardian), and the competitor may be asked by the Prize Administrator to provide permission in writing.
- c. Not been and are not currently under any union or guild agreement that results in any ongoing obligations resulting from the use, exhibition, or other exploitation of the submission.

## A.5 Copyright

Each competitor represents and warrants that the competitor is the sole author and copyright owner of the submission; the submission is an original work of the competitor, or that the competitor has acquired sufficient rights to use and to authorize others, including DOE, to use the submission, as specified throughout the rules; the submission does not infringe upon any copyright or any other third-party rights of which the competitor is aware; and the submission is free of malware.

## A.6 Contest Subject to Applicable Law

All contests are subject to all applicable federal laws and regulations. Participation constitutes each participant's full and unconditional agreement to these Official Rules and administrative decisions, which are final and binding in all matters related to the contest. This notice is not an obligation of funds; the final award is contingent upon the availability of appropriations.

## A.7 Resolution of Disputes

DOE is solely responsible for administrative decisions, which are final and binding in all matters related to the contest.

Neither DOE nor the Prize Administrator will arbitrate, intervene, advise on, or resolve any matters between team members or among competitors.

## A.8 Publicity

The winners of these prizes (collectively, "winners") will be featured on DOE's and NREL's websites.

Except where prohibited, participation in the contest constitutes each winner's consent to DOE and its agents' use of each winner's name, likeness, photograph, voice, opinions, and/or hometown and state information for promotional purposes through any form of media worldwide, without further permission, payment, or consideration.

## A.9 Liability

Upon registration, all participants agree to assume any and all risks of injury or loss in connection with or in any way arising from participation in this contest. Upon registration, except in the case of willful misconduct, all participants agree to and, thereby, do waive and release any and all claims or causes of action against the federal government and its officers, employees, and agents for any and all injury and damage of any nature whatsoever (whether existing or thereafter arising, whether direct, indirect, or consequential, and whether foreseeable or not) arising from their participation in the contest, whether the claim or cause of action arises under contract or tort.

In accordance with the delegation of authority to run this contest delegated to the judge responsible for this prize, the judge has determined that no liability insurance naming DOE as an insured will be required of competitors to compete in this competition, per 15 U.S.C. § 3719(i)(2). Competitors should assess the risks associated with their proposed activities and adequately insure themselves against possible losses.

## A.10 Records Retention and Freedom of Information Act

All materials submitted to DOE as part of a submission become DOE records and are subject to the Freedom of Information Act. The following applies only to portions of the submission not designated as public information in the instructions for submission. If a submission includes trade secrets or information that is commercial or financial, or information that is confidential or privileged, it is furnished to the government in confidence with the understanding that the information shall be used or disclosed only for evaluation of the application. Such information will be withheld from public disclosure to the extent permitted by law, including the Freedom of Information Act. Without assuming any liability for inadvertent disclosure, DOE will seek to limit disclosure of such information to its employees and to outside reviewers when necessary for review of the application or as otherwise authorized by law. This restriction does not limit the government's right to use the information if it is obtained from another source.

Submissions containing confidential, proprietary, or privileged information must be marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The U.S. government is not liable for the disclosure or use of unmarked information and may use or disclose such information for any purpose.

The submission must be marked as follows and must identify the specific pages containing trade secrets or confidential, proprietary, or privileged information: "Notice of Restriction on Disclosure and Use of Data: Pages [list applicable pages] of this document may contain trade secrets, confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for evaluation purposes. [End of Notice]"

The header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: "Contains Trade Secrets, Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure." In addition, each line or paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets.

Competitors will be notified of any Freedom of Information Act requests for their submissions in accordance with 29 C.F.R. § 70.26. Competitors may then have the opportunity to review materials and work with a Freedom of Information Act representative prior to the release of materials. DOE does intend to keep all submission materials private except for those materials designated as "will be made public."

## A.11 Privacy

If you choose to provide HeroX with personal information by registering or completing the submission package through the contest website, you understand that such information will be transmitted to DOE and may be kept in a system of records. Such information will be used only to respond to you in matters regarding your submission and/or the contest unless you choose to receive updates or notifications about other contests or programs from DOE on an opt-in basis. DOE and NREL are not collecting any information for commercial marketing.



## A.12 General Conditions

DOE reserves the right to cancel, suspend, and/or modify the prize, or any part of it, at any time. If any fraud, technical failures, or any other factors beyond DOE's reasonable control impair the integrity or proper functioning of the prize, as determined by DOE in its sole discretion, DOE may cancel the prize. Any performance toward prize goals is conducted entirely at the risk of the competitor, and DOE shall not compensate any competitors for any activities performed in furtherance of this prize.

Although DOE may indicate that it will select up to several winners for each prize, DOE reserves the right to only select competitors that are likely to achieve the goals of the program. If, in DOE's determination, no competitors are likely to achieve the goals of the program, DOE will select no competitors to be winners and will award no prize money.

## A.13 Program Policy Factors

While the scores of the expert reviewers will be carefully considered, it is the role of the prize judge to maximize the impact of the prize funds. Some factors outside the control of competitors and beyond the independent expert reviewers' scope of review may need to be considered to accomplish this goal. The following is a list of such factors. In addition to the reviewers' scores, the below program policy factors may be considered in determining winners:

- It may be desirable to select for award a project or group of projects that represent a diversity of technical approaches and methods under this competition or the overall program.
- It may be desirable that different kinds and sizes of organizations be selected for award in order to provide a balanced programmatic effort and a variety of technical perspectives under this competition or the overall program. For example, it may be desirable to select a project or group of projects that exhibit team member diversity, with participants including but not limited to those from disadvantaged communities.
- It may be desirable to select for award a project or group of projects with a broad or specific geographic distribution and potential economic impact under this competition or the overall program.
- Whether the use of additional DOE funds and provided resources are non-duplicative and compatible with the stated goals of this program and DOE's mission generally.
- The degree to which the submission exhibits technological or programmatic diversity when compared to the existing DOE project portfolio and other competitors.
- The degree to which the submission is likely to lead to increased employment and manufacturing in the United States or provide other economic benefits to U.S. taxpayers.
- The degree to which the submission will accelerate transformational technological, financial, or workforce advances in areas that industry by itself is not likely to undertake because of technical or financial uncertainty.
- The degree to which the submission supports complementary DOE-funded efforts or projects, which, when taken together, will best achieve the goals and objectives of DOE.
- The degree to which the submission expands DOE's funding to new competitors and recipients who have not been supported by DOE in the past.
- The degree to which the submission enables new and expanding market segments.
- Whether the project promotes increased coordination with nongovernmental entities toward enabling a just and equitable clean energy economy in their region and/or community.

## A.14 National Environmental Policy Act Compliance

This prize is subject to the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321, et seq.). NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the potential environmental impacts of their proposed actions. For additional background on NEPA, please see DOE's NEPA website at <http://nepa.energy.gov/>.

While NEPA compliance is a federal agency responsibility, and the ultimate decisions remain with the federal agency, all participants in the Lithium-Ion Battery Recycling Prize will be required to assist in the timely and effective completion of the NEPA process in the manner most pertinent to their participation in the prize competition. If applicable, participants may be asked to provide DOE with information on fabrication and testing of their device such that DOE can conduct a meaningful evaluation of the potential environmental impacts.

## A.15 Return of Funds

As a condition of receiving a prize, competitors agree that if the award was made based on fraudulent or inaccurate information provided by the competitor to DOE, DOE has the right to demand that any prize funds or the value of other non-cash prizes be returned to the government.

ALL DECISIONS BY DOE ARE FINAL AND BINDING IN ALL MATTERS RELATED TO THE PRIZE.