



Official Prize Rules

October 2022

Preface

The U.S. Department of Energy’s Energy Storage Innovations Prize will be governed by 15 U.S.C. §3719 and this Official Rules document. This is not a procurement under the Federal Acquisitions Regulation 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 Energy Storage Innovations Prize is a call for new, innovative, and promising solutions to energy storage. The prize aims to gain insight on emerging, next-generation technologies through cash prizes for individuals or organizations who provide a technical overview of their new ideas that will help inform the U.S. Department of Energy's (DOE) strategy on enabling storage technologies that can accelerate grid decarbonization.

Competitors will propose their grid-scale, long-duration-capable energy storage innovation with a written summary and accompanying 90-second video. Submissions will be judged on the innovation's quality, including a pathway to the Energy Storage Grand Challenge's¹ levelized cost of storage (LCOS) 2030 goals, strength of plan, and other unique benefits including equity, supply chain considerations, and other factors.

This competition is focusing only on new and emerging energy storage technologies. Established technologies that are already specifically identified by the Storage Innovations 2030 Framework effort are not of interest for this prize. See Technologies of Interest (Section 1.3) and Prize Background (Section 2.1) for detailed descriptions of the innovation categories and further explanation.

DOE will not take any rights in any intellectual property developed in furtherance of this prize or preexisting intellectual property rights of competitors except a license to display publicly and use the parts of the submission that are designated as "public" for government purposes.²

1.1 Prizes

The Energy Storage Innovations Prize offers a total prize pool of \$300,000 in cash prizes. There will be up to 10 winners total, with up to five *Storage Innovations Champion* winners receiving \$50,000 each and up to five *Storage Innovations Finalist* winners receiving \$10,000 each. The prize money is cash with no restrictions to its use.

In addition to the cash prize, proposed technologies of some or all winning teams may be included in a future report to Congress: an Office of Electricity presentation focusing on the state of energy storage innovation in the United States. Inclusion in this report, and the extent to which winners may be featured, is not guaranteed and is dependent on governmental review and approval. Winners will be announced publicly but may opt out of inclusion in the storage innovations report.

1.2 Key Dates

- **Submission Opens:** October 17, 2022
- **Submission Closes:** 5 p.m. EST on December 16, 2022
- **Evaluation of Submissions:** December 2022–January 2023
- **Winner Announcement:** February 2023 (anticipated).

¹ <https://www.energy.gov/energy-storage-grand-challenge/energy-storage-grand-challenge>

² For additional info on intellectual property, please see Appendix 1.

1.3 Technologies of Interest

This prize is focused on grid-scale, long-duration-capable energy storage innovations that are distinct from those in DOE's separate Storage Innovations Framework effort. Table 1 lists examples of technologies of interest for this prize competition. Other technologies beyond those listed in Table 1 may be of interest.

Table 1: Non-Exhaustive List of Example Technology of Interest Categories

Type	Technology
Electrochemical	Li-metal
	Na-metal
	Other metals (e.g., Mg, Al)
	Reversible fuel cells
Electromechanical	Liquid air energy storage
	Flywheels
	Geomechanical
	Pumped storage hydropower
	Gravitational
Thermal	Phase change
	Low-temperature storage
	High-temperature sensible heat
	Thermal-photovoltaic
Chemical	Chemical carriers (e.g., ammonia)
	Hydrogen
Flexible buildings	Thermostatically controlled loads
	Building mass
	Ice and chilled water
	Organic phase change material
	Salt hydrate
	Thermochemical
	Desiccant
Flexible generation	Front-of-the-meter flexibility and hybrids
	Behind-the-meter hybrids

DOE is already spending significant resources analyzing the Storage Innovations Framework-focused technologies. Table 2 lists the technologies of focus under the framework, which are not of interest for this prize.

**Table 2: Storage Innovations Framework Technology Categories of Focus
(Technologies Not of Interest for This Prize)**

Lithium-ion batteries	Lead batteries
Sodium-ion batteries	Flow batteries
Zinc batteries	Compressed-air energy storage
Supercapacitors	

The purpose of this prize is to highlight innovative, disruptive ideas that accelerate next-generation energy storage. If your technology falls within or adjacent to one of the technology families listed in Table 2, your submission must clearly differentiate how your innovation is significantly different from the historical or projected trajectory for that technology. Further, innovations for this prize should focus on new technology or architecture, rather than the application of existing technology to new use cases. While unique technology benefits are an important component of the submission package, a narrative that details applying proven technologies from Table 2 to new use cases is not the objective of this prize. Submissions that cover the technologies listed in Table 2 are not of interest and may not be subjected to a full review or considered for an award.

DOE will not retain any intellectual property from submissions as part of this prize competition except a license to display publicly and use the parts of the submission that are designated as “public” for government purposes as specified in Appendix 1. All prize judges and reviewers sign nondisclosure and conflict of interest agreements (NDA/COI) ahead of viewing any submitted materials. See Appendix A.4 for additional submission rights.

1.4 Eligibility and Competitors

The competition is open to private entities (for-profits and nonprofits); nonfederal government entities such as states, counties, tribes, and municipalities; academic institutions; and individuals, subject to the following requirements:

- Private entities must be incorporated in and maintain a primary place of business in the United States.
- Academic institutions must be based in the United States.
- An individual prize competitor or group of competitors who are not competing as part of a legally formed entity must all be United States citizens or legal permanent residents.
- Individuals competing as part of a legally formed entity may participate if they are legally allowed to work in the United States.

Competitor Eligibility

- DOE employees, employees of sponsoring organizations, members of their immediate families (e.g., spouses, children, siblings, or parents), and persons living in the same household as such persons, whether or not related, are not eligible to participate in the prize.

- Individuals who worked at DOE (federal employees or support service contractors) within 6 months prior to the submission deadline of any contest are not eligible to participate in any prize contests in this program.
- Federal entities and federal employees are not eligible to participate in any portion of the prize.
- DOE national laboratory employees cannot compete in the prize.
- 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 participation in federal programs are not eligible to compete.
- Entities and individuals identified as a restricted party on one or more screening lists of the U.S. Departments of Commerce, State, or the Treasury are not eligible to compete. See Consolidated Screening List.
- This prize competition is expected to positively impact U.S. economic competitiveness. Participation in a foreign government talent recruitment program³ could conflict with this objective by resulting in unauthorized transfer of scientific and technical information to foreign government entities. Therefore, individuals participating in foreign government talent recruitment programs of foreign countries of risk are not eligible to compete. Further, teams that include individuals participating in foreign government talent recruitment programs of foreign countries of risk⁴ are not eligible to compete.
- As part of your submission to this prize program, 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.

In keeping with the goal of growing a community of innovators, competitors are encouraged to form multidisciplinary teams while developing their concept. The HeroX platform provides a space where parties interested in collaboration can post information about themselves and learn about others who are also interested in competing in this contest.

³ A foreign government talent recruitment program is defined as an effort directly or indirectly organized, managed, or funded by a foreign government to recruit science and technology professionals or students (regardless of citizenship or national origin, and 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 physically relocate to the foreign state for the above purpose. Some programs allow for or encourage continued employment at U.S. 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.

⁴ Currently, the list of countries of risk includes Russia, Iran, North Korea, and China.

2 Background

The Energy Storage Innovations Prize is part of the American-Made Challenges program, funded by DOE and administered by the National Renewable Energy Laboratory (NREL) to incentivize innovation and fast-track the clean energy revolution. The American-Made Challenges program includes prizes, training, teaming, and mentoring to accelerate solutions by lowering the barriers faced by innovators. The goal of this program is to fast-track product development—reducing timelines from years to months—speed innovator progress, and create partnerships that connect entrepreneurs to the private sector and DOE national laboratories.

2.1 Prize Background

DOE and NREL recognize the importance of accessible, cost-effective energy storage in the clean energy transition. This prize competition focuses on new and emerging energy storage innovations that fit within a broader DOE strategy to understand the energy storage landscape in the United States and foster the development of new technologies that meet grid reliability, equity, and decarbonization objectives.

The primary purpose of this prize is to enable innovative, disruptive ideas that accelerate next-generation energy storage, complement the efforts under the Storage Innovations Framework, and incentivize creativity and innovation in emerging technologies that expand beyond the current state of the art.

To better understand the greater context of this prize, this section provides a brief history of DOE's recent energy storage efforts.

In December 2020, DOE established the Energy Storage Grand Challenge⁵ to accelerate the state of the art in energy storage technologies and establish the United States as the global leader in storage development, commercialization, and utilization. In September 2021, DOE established the Long Duration Storage Shot,⁶ which aims to reduce the cost of grid-scale energy storage by 90% for systems that deliver 10+ hours of duration by 2030. Under these strategies, DOE is considering all types of technologies, including electrochemical, mechanical, thermal, chemical carriers, or any combination that meets duration and cost targets for grid flexibility.

Furthermore, in House Report 117-98, pg. 105, on March 15, 2022, DOE is instructed:

“to publish a report on emerging energy storage technologies. Further, the report shall include an analysis of which technologies show promise for further or future funding. The emergent energy storage technologies explored in this report shall include, but not be limited to, supercapacitors, flow batteries, low-carbon hydrogen storage, and compressed-air energy storage.”

Taking into account the Energy Storage Grand Challenge vision, the 2021 Long Duration Storage Shot goal, and the 2022 directive from Congress, DOE has launched the Storage Innovations 2030 (SI 2030) initiative. The objective of SI 2030 is to develop specific and quantifiable research, design, and development (RD&D) pathways to achieve DOE targets and enable the significant cost reduction outlined.

DOE currently supports over 30 distinct energy storage technologies, including specific methods of storage via electrochemical, electromechanical, thermal, flexible generation, and controllable loads, as

⁵ Energy Storage Grand Challenge Roadmap: <https://www.energy.gov/energy-storage-grand-challenge/articles/energy-storage-grand-challenge-roadmap>

⁶ <https://www.energy.gov/eere/long-duration-storage-shot>

well as power electronics. Many of these energy storage technologies have the potential to enable the Long Duration Storage Shot targets. Achieving these aggressive targets will require resolution of key barriers throughout the value chain, from basic and applied research through analysis, demonstration, manufacturing, and full integration into the power and end-use sectors.

SI 2030 will feature a structured framework for RD&D activity evaluation and collaboration with industry consortia through an effort known as Flight Paths. Both the SI 2030 Framework and Flight Paths will focus on mid- or high-maturity technologies with established industries. The SI 2030 Framework will include a deep analysis of the R&D trajectories and needs for the following technology families:

**Copy of Table 2: Storage Innovations Framework Technology Categories of Focus
(Technologies Not of Interest for This Prize)**

Lithium-ion batteries	Lead batteries
Sodium-ion batteries	Flow batteries
Zinc batteries	Compressed-air energy storage
Supercapacitors	

The above history of recent energy storage efforts at DOE puts this prize competition into greater context. As previously stated, the goal of this prize is to identify and enable new, innovative, promising energy storage technologies that will help push the industry beyond the state of the art.

2.2 Additional Requirements

Please read and comply with additional requirements in Appendix 1.

COMPETITORS WHO DO NOT COMPLY WITH THESE REQUIREMENTS MAY BE DISQUALIFIED.

3 Submission Requirements and Review Process

3.1 Goal

This prize aims to gain insight on emerging, next-generation technologies through cash prizes for individuals or organizations who provide an overview of their ideas for technology development that will help inform DOE’s strategy on enabling storage technologies that can accelerate grid decarbonization.

3.2 Prizes

There will be up to five *Storage Innovations Champions* receiving \$50,000 each and up to five *Storage Innovations Finalists* receiving \$10,000 each, in addition to the potential opportunity for some or all of the winning teams and their innovations to be listed in a future report to Congress, featured on DOE’s websites, and considered for potential future engagement with DOE and NREL.

3.3 How To Enter

Go to [HeroX](#) and follow the instructions to register and submit all required materials before the submission deadline. Competitors have the ability to form teams or find partners through the HeroX platform.

The full URL is: <https://www.herox.com/storageinnovations>.

3.4 Important Dates

Refer to the timeline on HeroX for a live tracker of dates and deadlines.

- **Submission Opens:** October 17, 2022
- **Submission Closes:** 5 p.m. EST on December 16, 2022
- **Evaluation of Submissions:** December 2022–January 2023
- **Winner Announcement:** February 2023 (anticipated).

3.5 What To Submit

A complete submission package should include the following items:

- Introduction video (public)
- Cover page and narrative
- Summary PowerPoint slide (public).

The following guidance describes what information to provide and how reviewers evaluate and score your submission. Reviewers will evaluate submissions by assigning a single score for each scored submission section based on their overall agreement or disagreement with a series of statements.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

3.5.1 Introduction Video (Will Be Made Public) (Not Scored)

Introduction Video – <i>What’s your team and innovation in 90 seconds?</i>	
Suggested Content <ul style="list-style-type: none">• The energy storage challenge you are solving.• Your solution and why it is transformational.• Who you are (your organization and key team members) and why you have a competitive edge.	The video is required but <u>not</u> a scored component of the submission.

Post your publicly accessible video online (e.g., YouTube, Vimeo). Be creative and produce a video that conveys the required 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). Assistance from others with experience in this area may be helpful. Members of the American-Made Network may be able to help you create your video.⁷

3.5.2 Cover Page Content

List basic information about your submission, including:

- Project title
- Team name
- Short description
- Key project members (names, contacts, and links to their professional online profiles)
- Other partners (if any)
- Your city, state, and nine-digit ZIP/area code.

3.5.3 Narrative

Your narrative should answer each of the following four questions. The content bullets are suggestions to guide your responses. You decide where to focus your answers. The individual answers to the four questions do not have a word limit; however, **the aggregate response to these four questions must not exceed 3,000 words**, not including captions, figures/graphs, or references. A word count must be included at the end of your submission. You may also include **up to five supporting images, figures, or graphs**. The reviewers will score the questions based on the content you have provided.

⁷ The American-Made Network is a group of public and private sector entities recruited by NREL to provide mentoring, tools, resources, and support to accelerate the transition of clean energy ideas into real-world solutions. Members may make themselves available to help competitors develop their videos for this prize. Visit americanmadechallenges.org for more info.

Narrative	
Maximum 3,000 words and five supporting images or figures (PDF) Template:	
Question 1: What is your storage technology innovation?	
<p style="text-align: center;">Suggested Content</p> <ul style="list-style-type: none"> Provide a thorough technical description of your technology with detailed diagrams and schematics, as appropriate. Provide information and performance data from previous simulations, lab-scale tests, or demonstrations. Include a description of how this technology moves beyond the state of the art and is better than existing solutions. 	<p style="text-align: center;">Two scores are provided, each on a scale of 1–6.</p> <ul style="list-style-type: none"> Score #1: The technology description clearly shows how the technology works or is intended to work, including technical feasibility backed up with robust tests/demonstrations/simulations. Score #2: The technology described is an innovative and compelling solution that moves the energy storage sector beyond the state of the art.
Question 2: How does your technology support DOE’s goal for cost-effective long-duration energy storage? ⁸ What other DOE priorities (e.g., sustainable supply chain, energy equity, enhanced resilience) or innovative storage use cases will your technology meet?	
<p style="text-align: center;">Suggested Content</p> <ul style="list-style-type: none"> Provide a current and 2030 LCOS estimation. For more information on LCOS calculation, please reference the LCOS methodology from DOE’s Advanced Research Projects Agency–Energy (ARPA-E).⁹ Include details about anticipated power ratings and durations for given cost. Relate LCOS estimations to the Long Duration Storage Shot goal.¹⁰ Provide a clear description of your innovation’s value proposition and other technology benefits and how they align with DOE priorities (e.g., creating a sustainable supply chain, providing energy equity, enhancing resilience). 	<p style="text-align: center;">Two scores are provided, each on a scale of 1–6.</p> <ul style="list-style-type: none"> Score #1: Based on included descriptions, calculations, and projections, the technology has a pathway to reach the Long Duration Storage Shot goal with feasible and realistic estimates. Score #2: The technology clearly and robustly benefits DOE priorities such as creating a sustainable supply chain, providing energy equity, enhancing resilience, and others.

⁸ DOE’s target is to reduce the cost of grid-scale energy storage by 90% for systems that deliver 10+ hours of duration within the decade. See this link for more information: <https://www.energy.gov/eere/long-duration-storage-shot>.

⁹ https://arpa-e.energy.gov/sites/default/files/documents/files/DAYS_ProgramOverview_FINAL.pdf

¹⁰ See footnote 8.

Question 3: What challenges are associated with the development and deployment of your technology?	
<p style="text-align: center;">Suggested Content</p> <ul style="list-style-type: none"> • Provide a list of technical barriers and challenges that additional RD&D is needed to address. • Provide a list of key technology and commercialization risks related to scale-up and further demonstration. 	<p style="text-align: center;">A single score on a scale of 1–6 is provided, taking the following statements into consideration:</p> <ul style="list-style-type: none"> • A realistic and well-thought-out description of barriers and challenges is provided, including potential solutions and RD&D areas of consideration. • Competitor gives thoughtful consideration to risks related to scale-up and further demonstration.
Question 4: How do you plan to further develop or commercialize your technology?	
<p style="text-align: center;">Suggested Content</p> <ul style="list-style-type: none"> • Include the RD&D activities needed to further develop this technology. • Highlight how anticipated next steps will build upon progress made so far. • List which types of project partners are needed to continue technology development and demonstration. • Highlight how additional investment would help further technology development. 	<p style="text-align: center;">A single score on a scale of 1–6 is provided, taking the following statements into consideration:</p> <ul style="list-style-type: none"> • Competitor provides a clear list of future RD&D activities to further develop the technology. • Clear links are established between the current state of the technology and the areas of development needed to reach future goals. • Thorough descriptions of the types of essential project partners are included. • Competitor includes compelling evidence of how additional funding could help progress the development of the technology.

Reviewer Recommendation	
<ul style="list-style-type: none"> • There is no direct corresponding submission requirement for this score. Rather, it is an overall assessment of all materials submitted in HeroX. 	<p style="text-align: center;">A single score on a scale of 1–6 is provided, taking the following statement into consideration:</p> <ul style="list-style-type: none"> • The innovation, team, and plan should be strongly considered for a prize.

3.5.4 Summary PowerPoint Slide (Will Be Made Public)

Make a public-facing, one-slide submission summary that introduces your team and/or organization and mission. There is no template, so competitors are free to present the information in any format. Any text must be readable on a standard printed page and a conference room projection and should be at least 14-point font.

3.6 How We Determine and Award Winners

The Prize Administrator screens all completed submissions and ensures the teams are eligible. Then a subset of reviewers will determine if the submissions comply with the program goal requirements in Section 3.7 and whether submissions cover technology outside of the technologies listed in Table 2. In consultation with DOE, the Prize Administrator assigns reviewers to independently score the content of each submission. The reviewers will be composed of federal and nonfederal subject matter experts in areas relevant to the competition. Reviewers will score each competitor's submission package according to the criteria in Section 3.5.

3.6.1 Reviewer Panel Scoring

The scoring of submissions will proceed as follows:

- Experts will review each submission individually, assess the response from the competitor to each statement in the four criteria described in the tables in Section 3.5.3, and add a final score as part of the reviewer recommendation.
- Reviewers will score each question 1–6, depending on the degree to which the reviewer agrees that the submission reflects the statements for consideration.
- Each section score will be added together to generate a total score for the submission.
- The total scores from each reviewer will be averaged to produce a final score for the competing team/organization. This score will inform the judge's decisions on prize awards.

3.6.2 Interviews

DOE may decide to interview a subset of competitors. The interviews would be held prior to the announcement of the winners and would serve to help clarify questions the reviewers may have. Participating in interviews is not required, and interviews are not an indication of a competitor's likelihood to win.

3.6.3 Final Determination

DOE will designate a federal employee as the judge before the final determination of the winners. Final determination of the winners by the judge will take into account the reviewers' feedback and scores, application of program policy factors, and the interview findings (if applicable).

3.6.4 Announcement

Approximately 60 days after the contest closes, the Prize Administrator will notify the winners and request the necessary information to distribute the prizes. The Prize Administrator will then publicly announce the winners.

3.7 Program Goal Requirements

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

- The proposed solution is related to the energy storage industry.
- The majority of activities that are described in and support the submission package are performed in the United States and have the potential to benefit the U.S. market.
- The proposed solution represents an innovation that will move the 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 based on fundamental technical principles and is consistent with a basic understanding of the U.S. market economy.
- The submission content sufficiently confirms the competitor's intent to commercialize early-stage technology and establish a viable U.S.-based business in the near future with revenues that do not solely depend on licensing fees of intellectual property.
- The proposed solution is based on a nascent or emerging technology or clearly differentiates from ineligible technologies, as detailed in Sections 1.3 and 2.1.

3.8 Additional Terms and Conditions

See Appendix 1 for additional requirements.

COMPETITORS THAT DO NOT COMPLY WITH THE ADDITIONAL REQUIREMENTS IN APPENDIX 1 MAY BE DISQUALIFIED.

Appendix 1: Additional Terms and Conditions

A.1 Requirements

Your submission for the Energy Storage Innovations Prize is subject to the following terms and conditions:

- You must upload 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.

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 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 W9 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 consisting 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 (1) an unlimited license to display the submission publicly and (2) to use any parts of the submission that are designated as "will be made public" in the Official Rules for any for government purpose. 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 contest, 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 organization that 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, likeness of any third party, musical recordings, clips of videos, television programs, or motion pictures) in or in connection with the submission, unless (1) otherwise requested by the Prize Administrator and/or disclosed by the competitor in the submission, and (2) the competitor has either obtained the rights to use such third-party content or the content of the submission is considered 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 the competitor's child, the 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; and
- 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; that 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; that the submission does not infringe upon any copyright or any other third-party rights of which the competitor is aware; and that 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 and NREL 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 identify the specific pages containing trade secrets, 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 factor beyond DOE's reasonable control impairs 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 the 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 prize funds. Some factors outside the control of competitors and beyond the independent expert reviewer 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:

- Geographic diversity and potential economic impact of projects.
- Whether the use of additional DOE funds and provided resources are non-duplicative and compatible with the stated goals of this program and the DOE 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 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.

A.15 Return of Funds

As a condition of receiving a prize, competitors agree that if the prize 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.