



Science Synthesis Prize: Identifying Key Barriers to Renewable Integration

Official Rules

MAY 2024

Preface

The U.S. Department of Energy's **Science Synthesis Prize: Identifying Key Barriers to Renewable Integration** is part of the Grid Resource Integration Technology (GRIT) Prize Series and 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 Introduction

The U.S. Department of Energy (DOE) Office of Electricity (OE) is launching the American-Made Science Synthesis Prize: Identifying Key Barriers to Renewable Integration. The Science Synthesis Prize: Identifying Key Barriers to Renewable Integration is part of the Grid Resource Integration Technology (GRIT) Prize Series and is designed to create new knowledge based on *transdisciplinary synthesis* of the state of the art in renewable integration literature and practice. The goal of the prize is to identify the opportunities, challenges, and key investment areas to tackle renewable energy integration challenges for grid modernization and decarbonization.

As new renewable energy technologies are developed and integrated into the electric grid, there are new opportunities and challenges that must be addressed. OE invites graduate students, researchers, industry partners, and key stakeholders to analyze the landscape of renewable energy integration theory and practice and to highlight pivotal opportunities, challenges, solutions, and areas of investment for addressing integration challenges. The winning submission of this prize may inform DOE’s roadmap for understanding and addressing opportunities and challenges relating to the integration of large-scale renewable energy into the electric grid.

1.1 Prize

The Science Synthesis Prize: Identifying Key Barriers to Renewable Integration offers a total prize pool of \$125,000.

Competitors will form robust teams to develop an in-depth and cohesive research paper that highlights the state of the art in renewable energy technologies, addresses the current and projected challenges associated with such technologies, and identifies the renewable integration gaps throughout the industry that could be addressed with greater investment, research, development and/or awareness. Up to 10 teams will each receive \$10,000, and up to 5 teams may be awarded an additional \$5,000 each for exceptional submissions.

Winners	Prizes
Up to 10 winners	\$10,000 (\$100,000 total prize pool)
Up to 5 winners	\$5,000 bonus (\$25,000 total prize pool)

1.2 Key Dates

Refer to the timeline on [HeroX](#) for relevant dates.

1.3 Eligibility and Competitors

The competition is open only 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:

- A competitor may only submit a single submission.

- In the case of a private entity, the entity shall be incorporated in and maintain a primary place of business in the United States, and in the case of an individual, whether participating singly or in a group, the individual shall be a citizen or permanent resident of 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 an incorporated private entity must all be United States citizens or legal permanent residents.
- Individuals competing as part of an incorporated private entity may participate if they are legally allowed to work in the United States.
- 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.
- Individuals participating in a foreign government talent recruitment program¹ sponsored by a country of risk² 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 are not eligible to compete.
- 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.

In keeping with the goal of growing a community of innovators, competitors are encouraged to form multidisciplinary teams and leverage transdisciplinary synthesis while developing their concepts. 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.

2 Background

2.1 Prize Background

The Science Synthesis Prize: Identifying Key Barriers to Renewable Integration is part of the American-Made Challenges program, which is your fast track to the clean energy revolution. Funded by DOE and

¹ 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.

² DOE has designated the following countries as foreign countries of risk: Iran, North Korea, Russia, and China. This list is subject to change.

administered by the National Renewable Energy Laboratory (NREL), American-Made Challenges incentivizes innovation through prizes, training, teaming, and mentoring, connecting the nation's entrepreneurs and innovators to America's national labs and the private sector.

The goal of the Science Synthesis Prize: Identifying Key Barriers to Renewable Integration is to expand the renewable energy research community, catalyze transdisciplinary scholarship and practice, and generate new and comprehensive knowledge on the current state of science in renewable integration.

2.2 Prize Goals

The Science Synthesis Prize: Identifying Key Barriers to Renewable Integration aims to incentivize competitors to analyze the renewable energy industry to highlight opportunities and challenges for large-scale integration of renewables that could be addressed with greater awareness and more effective investments. Competitors should synthesize the state of the art in the theory and practice of renewable energy integration; highlight current and future opportunities, challenges, risks, and areas of investment related to integrating large-scale renewable energy; pinpoint how solutions to these efforts could be best communicated to the industry; and describe how the presented opportunities and challenges could be addressed in a way that is informed by decision sciences.³

Competitors, such students, researchers, scholars, scientists, engineers, and/or stakeholders, may form multidisciplinary teams. In an in-depth research paper, competitors should synthesize the state-of-the-art in the renewable energy industry, highlighting challenges, opportunities, and areas of investment associated with their large-scale integration, and identifying risk-informed pathways for communicating the take-aways to stakeholders.

2.3 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 paper is related to the electric grid and the integration of renewable energy resources.
- The team is thorough and comprehensive in reviewing and synthesizing the state of the art in the science and practice of renewable technology. The sections of the paper that are focused on (1) the needed areas of investment and their effective communication to the industry and (2) addressing challenges in a risk-informed way, must focus on the electric grid in the United States.
- Addressing the identified challenges and opportunities are likely to move the industry beyond its current state.
- Solving the identified challenges and addressing the identified opportunities are not dependent on new, pending, or proposed federal, state, or local government legislation, resolutions, appropriations, measures, or policies.
- Solving the identified challenges and addressing the identified opportunities do not involve the lobbying of any federal, state, or local government office.

³ For more information on decisions sciences, see [Society for Risk Analysis Glossary](#) & [Society for Risk Analysis Risk Analysis Foundations](#).

- Solving the identified challenges and addressing the identified opportunities are based on fundamental technical principles and are consistent with a basic understanding of the U.S. market economy.

2.4 Publications by Competitors

Competitors who compete in the Science Synthesis Prize: Identifying Key Barriers to Renewable Integration may choose to submit their research paper to a peer-reviewed scientific journal. However, competitors must adhere to each of the following:

1. Competitors may not submit their paper to a journal for review until the Science Synthesis Prize: Identifying Key Barriers to Renewable Integration has closed.
2. Competitors who choose to submit their research paper for publication **must** include the following disclaimer in its entirety:

This work was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof, its contractors or subcontractors.⁴

2.5 Additional Requirements

Please read and comply with additional requirements in [Appendix 1](#).

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

⁴ Source: <https://www.osti.gov/stip/about/disclaimer>

3 Prize Details

3.1 Goal

Competitors may form robust teams of students, researchers, scholars, scientists, engineers, and/or stakeholders to research the renewable energy integration industry and develop a thorough and in-depth research paper that synthesizes the state of the art in renewable energy integration theory and practice. Competitors will have demonstrated a thorough understanding of the challenges and opportunities related to integrating renewable energy into the U.S. electric grid.

3.2 Prizes

Up to 10 winners will each receive a cash prize of \$10,000. Up to five winners will each receive an additional \$5,000 bonus for exceptional submissions.

3.3 How to Enter

Go to [HeroX](#) and follow the instructions for registering and submitting all required materials before the phase deadline. Competitors can also form teams or find partners through the HeroX platform.

3.4 Prize Process

The Science Synthesis Prize: Identifying Key Barriers to Renewable Integration consists of the following steps:

1. **Activation and Submission:** Competitors complete their submission packages and submit online before the Prize closes.
2. **Assessment:** Experts review the submissions. Reviewers make recommendations to the U.S. Department of Energy, who is the final judge for the prize.
3. **Announcement:** DOE publicly announces the winners.

3.5 What to Submit

A complete submission package for the Science Synthesis Prize: Identifying Key Barriers to Renewable Integration should include the following items:

- Cover page content
- Research paper addressing the guided topics in Section 3.6.2
- Short biographies of all authors.

3.5.1 Cover Page Content

List basic information about your submission, including:

- Research paper title
- Team name
- Project members (names, contacts, and links to their professional online profiles)
- Other partners (if any)
- Your city, state, and nine-digit ZIP code.

3.5.2 Research Paper

Your research paper should be a comprehensive, cohesive synthesis of the state-of-the-art in renewable energy industry.

Formatting Guidelines

The submitted papers should be double-spaced, with 1-inch margins on all sides, and should be written in clear, grammatically correct English. Headings (e.g., Abstract, Highlights, Introduction, Review & Synthesis, Summary & Conclusion) should be in bold capital lettering and numbered, followed by the BIBLIOGRAPHY section. Subheadings should be bold and numbered as 1.1, 2.1. Sub-subheadings should be italicized. Please see an example below:

3. FURTHER DISCUSSIONS

3.1. Challenges

3.1.1. *Emerging Risks*

3.1.2. *Epistemic Uncertainties*

3.2. Opportunities

Figures and tables should be numbered and can either be inserted within the text or included on additional pages.

Plagiarism

The submitted papers may be screened for plagiarism against previously published works, with significant consequences for the cases where plagiarism is detected.

Ethics

Teams should transparently disclose *any* use of artificial intelligence (AI) tools such as ChatGPT, Gemini, or Large Language Models, if applicable, in developing any portion of their manuscript creation (it should be clearly discussed in the Acknowledgment section). Please refer to the Committee On Publication Ethics (COPE) position statement on the use of AI in publications: [Authorship and AI tools | COPE: Committee on Publication Ethics](#).

Content Guidelines

The research paper should adequately and cohesively address each of the topic areas below. There is no word limit within each topic area; however, **the paper must not exceed 6,000 words**, not including captions, figures/graphs, or references. A word count must be included at the end of your submission (see template for details). The reviewers will score the questions based on the content you have provided.

The paper must include answers to the following key topics:

- Key Point 1: What is the state of the art in the science and practice of renewable energy integration?
- Key Point 2: What opportunities and challenges exist currently and in the near future for accelerated integration of large-scale renewables?
- Key Point 3: What interventions and investments are needed to meaningfully leverage the opportunities and address challenges and blind spots?
- Key Point 4: How can the presented opportunities and challenges be addressed in a way that is informed by decision sciences and communicated to the stakeholders?

Additionally, the following key topics are of interest to DOE's Office of Electricity. Submissions that address these additional key topics will not receive additional bonus points, but submissions that include

the following key topics may result in a stronger, more well-rounded submission. The maximum word count for the paper remains 6,000 words, even if these additional optional topics are included.

- Optional Key Point 5: What stakeholders from within the renewable energy industry and from other industries need to collaborate to bring about the greatest impact?
- Optional Key Point 6: What key technologies or innovations are still needed for large-scale integration of renewable energy resources?
- Optional Key Point 7: What is the long-term vision of renewable energy integration in the United States?

3.5.3 Biographies

All authors of the research paper should include a half-page biography stating their previous and current contributions to the energy industry as well as any additional professional background information that would help highlight their experience and knowledge.

3.6 How Submissions Are Evaluated

The Prize Administrator screens all completed submissions and ensures the teams are eligible. Reviewers and DOE will then review the submissions using the following criteria:

- The team identifies compelling gaps and synthesizes information on novel and impactful technologies, approaches, models, tools, and analyses that are likely to have a positive impact on the electric grid in the United States if implemented successfully.
- The team's analysis of technology potential and impact is accurate, well-cited, and grounded in rigorous science.
- The highlighted opportunities, challenges, risks, and areas of investment show the team has conducted an in-depth and rigorous analysis and synthesis of the state of the art in the literature and are not surface-level deductions.
- The team highlights opportunities/challenges/risks/areas of investment that are currently being addressed and those that have not been.
- The benefits highlighted for each opportunity and analysis of/solution to each challenge are reasonable, accurate, and plausible.
- The synthesis and discussion are built on reasonable assumptions and lessons learned from other notable efforts in this space and demonstrate a transdisciplinary perspective.
- The paper is cohesive, well-structured, and well-written.

Submissions which score greater than 90% of all possible points, including reviewer recommendations, may be considered as "exceptional" and may be eligible for the bonus prize. Submissions awarded a bonus prize will be at the sole discretion of DOE.

3.7 How We Determine and Award Winners

The Prize Administrator screens all completed submissions and ensures the teams are eligible. Then the Prize Administrator, in consultation with DOE, assigns subject-matter-expert reviewers from industry and national laboratories who independently score the content of each submission. The reviewers will be composed of federal and nonfederal subject-matter experts with expertise in areas relevant to the competition. They will review the competitors' submissions according to the evaluation criteria described in Section 3.5.2 .

3.7.1 Reviewer Panel Scoring

The scoring of submissions will proceed as follows:

- Industry and national laboratory experts will review each submission individually and assess using the criteria described in Section 3.6.
- Reviewers will score each key point on a scale of 0–10, depending on the degree to which the reviewer agrees that the submission addresses each key topic, along with the criteria described in Section 3.6.
- Reviewers will additionally score on a scale of 0–10 on the overall quality, comprehensiveness, and analysis of the submission.
- Each section score will be added together to generate a total score for the submission, which can be up to 80 points.
- The total scores from each reviewer will be averaged to produce a final score for the competing team/organization. This score will inform the judges' decisions on prize awards.

3.7.2 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.

3.7.3 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 consider the reviewers' feedback and scores, application of program policy factors, and the interview findings (if applicable).

3.7.4 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.

3.8 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 Science Synthesis Prize: Identifying Key Barriers to Renewable Integration is subject to the following terms and conditions:

- All submissions that you wish to protect from public disclosure must be marked according to the instructions in Section A.10 Records Retention and Freedom of Information Act. 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 the U.S. Department of Energy (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 the information contained in this submission will be relied on by the federal government to determine whether to issue a prize to the named competitor. 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 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, 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, 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 organization 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, 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 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; 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; 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 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) and (3). 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 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.

DOE may conduct a risk review, using Government resources, of the competitor and project personnel for potential risks of foreign interference. The outcomes of the risk review may result in the submission being eliminated from the prize competition. This risk review, and potential elimination, can occur at any time during the prize competition. An elimination based on a risk review is not appealable.

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 Science Synthesis Prize: Identifying Key Barriers to Renewable Integration 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. 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 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.