



U.S. DEPARTMENT OF ENERGY COLLEGIATE WIND COMPETITION 2025

Rules – Phase 1

March 2024

Preface

This competition will be governed by 15 U.S.C. §3719 and this Official Rules document, which establishes the prize rules and requirements for the competition. 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 Administrators reserve the right to modify this Official Rules document if necessary and will publicly post any such notifications as well as notify registered prize participants. In case of a discrepancy with other competition materials or communication, this document takes precedence.

The National Renewable Energy Laboratory is supporting the U.S. Department of Energy on the development and administration of this prize.

Date	Modification

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1 Introduction

1.1 Overview

The U.S. Department of Energy (DOE) Wind Energy Technologies Office's (WETO's) Collegiate Wind Competition (CWC, also referred to as the “competition” in this rules document) invites interdisciplinary teams of undergraduate students from a variety of academic programs to solve complex wind energy challenges. Through the competition, WETO intends to offer students direct industry experience, valuable exposure to wind energy career pathways, and greater knowledge of wind energy's potential to contribute to a clean energy future. The competition consists of three phases. This document announces the rules for Phase 1, in which up to 35 teams will each be awarded \$2,000 and the opportunity to further compete in Phase 2. In Phase 2, up to 12 teams will be selected for a \$15,000 award each and the opportunity to compete in Phase 3. In Phase 3, teams will compete for cash prizes totaling \$30,000.

Each year, the competition identifies a new challenge and set of activities that address real-world research questions, thus demonstrating skills that students will need to work in the wind or wider renewable energy industries. The Collegiate Wind Competition 2025 challenge requires participants to compete simultaneously in four contests:

- **Turbine Design Contest:** Design, build, and present a unique, wind-driven power system.
- **Turbine Testing Contest:** Test the wind turbine in a competition wind tunnel at the final event.
- **Project Development Contest:** Research wind resource data, transmission infrastructure, and environmental factors to create a site plan and financial analysis for a hypothetical wind farm.
- **Connection Creation Contest:** Partner with wind industry professionals, raise awareness of wind energy in your local community, and work with local media to promote your team's accomplishments.

The competition does not prescribe a power system market¹ or wind regime. It is expected that each team will participate in all four contests.

1.2 Background

The U.S. land-based and offshore wind energy markets are expected to grow significantly over the next few decades, with the installed capacity estimated to reach nearly 317,000 megawatts (MW) by 2030 for land-based wind and 24,000 MW by 2030 for offshore wind, according to the NREL 2022 Standards Scenario Mid-Case with nascent technology and current policy.² This potential industry growth under a business-as-usual (BAU) scenario will need more qualified workers to support overall expansion, with estimates showing that the total workforce supply could be 134,000 and the total workforce demand could be about 258,500 in 2030. The deficit between supply and demand could be 124,000 workers in 2030 for both land-based and offshore

¹ For example, <https://www.ferc.gov/electric-power-markets>

² McDowell, B., J. Stefek, E. Smith, B. Pons, and Q. Ahmad. 2024. *National Wind Energy Workforce Assessment: Challenges, Opportunities, and Future Needs*. Golden, CO: National Renewable Energy Laboratory. NREL/TP-5000-87670. <https://www.nrel.gov/docs/fy24osti/87670.pdf>.

wind deployment, necessitating connective workforce programs, like CWC, to help develop robust wind workforce pathways and encourage participants to apply to jobs related to wind energy.³ The competition increases renewable energy job preparedness for students. Specifically, the CWC's objective is to prepare students from multiple disciplines to enter the wind energy workforce by providing real-world experience for researchers, scientists, engineers, educators, project managers, and business and sales forces. Wind-energy-specific advanced degrees are not required for many of these jobs, but having wind-related experience is highly valuable.⁴

2 Competition Overview

The Collegiate Wind Competition 2025 challenges teams to compete in four contests: Turbine Design, Turbine Testing, Project Development, and Connection Creation. Within each contest, teams' submissions receive points toward winning the contest. The competition is divided into three phases. This document establishes the requirements for Phase 1 – Preliminary Team Selection. The details for Phases 2 and 3 will be established in a subsequent rules document that will be issued during the summer preceding the competition year.

2.1 Phases

All four contests that make up the competition will be held in three phases. Competitors will have a chance to win prizes at each phase, for a total prize pool of \$280,000.

- Phase 1 – Preliminary Team Selection: \$2,000/team from a total cash prize pool of \$70,000.
 - The submission asks teams to share their motivations for entering the competition and describe their capacity to perform well in the competition.
 - It is recommended and expected that teams leverage this cash prize to support their participation in Phase 2 of the competition.⁵
 - A maximum of 35 teams⁶ will be selected from the pool of submissions.
 - The full set of submission requirements are described in Section 3.
- Phase 2 – Competitor Selection: \$15,000/team from a total cash prize pool of \$180,000.
 - Phase 2 is open only to winners of Phase 1.
 - The Competitor Selection phase is the chance for students to demonstrate their skill sets in achieving competition objectives. Submissions, structured as written reports, have been designed to evaluate how likely the team is to be successful in competing in the rest of the competition.

³ National Wind Energy Workforce Assessment: Challenges, Opportunities, and Future Needs (McDowell, 2024) report.

⁴ Keyser, David, and Suzanne Tegen. 2019. The Wind Energy Workforce in the United States: Training, Hiring, and Future Needs. Golden, CO: National Renewable Energy Laboratory. <https://www.nrel.gov/docs/fy19osti/73908.pdf>

⁵ Receipt of a prize under Phase 1 does not commit a team to further participation in the Competition.

⁶ In the event of a tie, DOE may apply the program policy factors in Appendix C to determine the winner, or subject to availability of prize funds DOE may announce an increase in total prize purse to allow for extending awards to the teams that score a tie. Any such increase in the prize purse would be announced through a modification to these rules.

- In this phase, teams will complete submissions during the fall semester for all four contests: Turbine Design, Turbine Testing, Project Development, and Connection Creation. CWC organizers will use those submissions to select up to 12 teams⁷ to receive a cash prize and the opportunity to compete in Phase 3, which will take place during the spring 2025 semester.
- Details on submission requirements, how the submissions will be evaluated, and when they are due will be included in a separate Phases 2–3 rules document.
- Phase 3 – Grand Prize: \$30,000 prize pool for winners in a variety of categories, defined below.
 - Phase 3 is open only to winners of Phase 2.
 - This final phase includes multiple submissions for each of the four contests. The final submissions will be evaluated at a final event, which includes the chance for teams to present to industry experts, test the model turbines in the competition wind tunnels, network with industry professionals, and get a preview of what the wind energy industry is like.
 - Teams will compete throughout the spring semester in an effort to win the awards listed below and a portion of the prize pool.
 - The final event is expected to take place at a venue to be determined, to occur toward the end of the spring semester.
 - All points earned throughout the competition for the four contests will roll up into a final score that will be combined with program policy factors to determine the final winners. Teams may win multiple awards.⁸ Awardees will split a \$30,000 prize pool. Awards will include but will not necessarily be limited to the following:
 - First-place winner: The team that earns the highest combined score.
 - Second-place winner: The team that earns the second-highest combined score.
 - Third-place winner: The team that earns the third-highest combined score.
 - Turbine Design Contest winner: The team that earns the highest combined score from all Turbine Design Contest submissions.
 - Turbine Testing Contest winner: The team that earns the highest combined score in the Turbine Testing Contest.
 - Project Development Contest winner: The team that earns the highest combined score from all Project Development Contest submissions.

⁷ In the event of a tie, DOE may apply the program policy factors in Appendix C to determine the winner or, subject to availability of prize funds, DOE may announce an increase in total prize purse to allow for extending awards to the teams that score a tie. Any such increase in the prize purse would be announced through a modification to these rules.

⁸ In the event of a tie, DOE may apply the program policy factors in Appendix C to determine the winner or may split the prize funds allotted for that award between the tied teams.

- Connection Creation Contest winner: The team that earns the highest combined score from all industry and community engagement submissions.

3 Phase 1 Submission

The Collegiate Wind Competition brings together students in the fields of science, technology, engineering, and mathematics (STEM) as well as business, marketing, communications, policy, and social sciences for the purpose of engaging the future workforce in wind energy. The competition is open to undergraduate students from institutions of higher education.

A team must comprise undergraduate students subject to the following guidelines:

- Students may come from a mixture of 4-year colleges or universities in the United States and 2-year institutions, such as community colleges.
- Students from international institutions are welcome to participate on a team but must partner and apply with a team of students from a domestic U.S. institution as the lead. International participants will not be eligible to receive cash prizes directly from DOE.
- Phase 1 teams are not required to have a faculty advisor by the Phase 1 submission deadline; however, teams will need to engage a faculty advisor from a college or university in the United States to be eligible to compete in Phase 2.

See Appendix C for a complete list of eligibility requirements. All teams must provide their own funding to support travel and competition expenses. Teams may choose to use prize funds for travel and competition expenses but are not required to do so. Note that a single payment will be made to the lead university.

Interested teams must provide a submission package on the [HeroX platform](#) by 4:59 p.m. MT on June 13, 2024. Teams will not be eligible to compete if a complete submission is not provided by the deadline. Submissions will be reviewed and scored by national laboratory researchers and DOE staff using the evaluation criteria and scoring rubrics listed in the subsections below. Each submission for CWC should be less than 1,500 words and include a response for each of the following subsections. No images will be accepted in the written document, but HeroX will provide space for a single, optional cover image to be uploaded. Any images in the document will not be reviewed.

Ultimately, this collegiate competition is designed to foster educational programs and would benefit from classroom curricula as well as the creation of remote learning, industry partnerships, informal independent-study projects, industry mentorships, and clubs.

The submission requirements are listed below, with the relevant rubric included in each section. DOE reserves the right to post or link to public portions of the submission, and all submissions are subject to the Freedom of Information Act. Please reference Appendix C for more information. The submission will be scored out of a possible total of 100 points.

3.1 Team Contact Information

Include the following team contact information:

- Lead institution
- Partner institutions (if applicable)
- Team Faculty Advisor(s) name and department (if applicable)
- Faculty Advisor(s) email (if applicable)
- Faculty Advisor(s) phone number (if applicable)
- Collegiate Team Student Leader(s) name and declared/intended major (if known)
- Collegiate Team Student Leader(s) email.

3.2 Introduction (10%)

Teams should provide:

- A brief introduction of their team, why they are interested in participating in this competition, and their commitment to engage in the CWC educational opportunities (e.g., educational webinars and networking opportunities).
- How the team will gain expert mentorship to support the team’s skills development.
- How the team will recruit student team leads from both the business and engineering schools if representative students from those departments are not part of this initial submission.

Table 1. Scoring Rubric for Submission Introduction

Description	Maximum Possible Points
Introduction: The submission describes the team’s interest and commitment and their approach to gaining mentorship and support as well as student participation.	10

3.3 Educational Objectives and Integration (25%)

Teams should answer the following:

- Describe how the team plans to enable students to cultivate knowledge for the competition contests and create sustainable support for the team. This could include developing a CWC-focused capstone project, independent-study projects, or clubs. Students should consider ways to integrate the competition activities into educational coursework, to document knowledge gained, or other ways to make it easy for the team to pass knowledge to students year after year.
- Education could also include other programs that support the competition, such as related work, scholarships, or research assistantships designed to support successful student participation.

Table 2. Scoring Rubric for Submission Educational Objectives and Integration

Description	Maximum Possible Points
Educational Objectives and Integration: The submission provides an achievable and detailed description of how the team plans to make space for the cultivation of student knowledge and to ensure the team’s sustained support.	25

3.4 Organization and Project Planning (25%)

Teams should describe:

- How the team will execute elements of the competition, including how unique obstacles, such as academic calendars or virtual collaboration challenges, will be overcome (if applicable, noting previous participation in similar competitions).
- How the team will be supported by technical experts to ensure that students can be successful in achieving the competition objectives (e.g., upperclassmen, graduate students, faculty, staff, industry, or other mentors) and how they will advise students throughout the competition.
- Which departments across the institution(s) will be involved in the team’s participation in the four contests and what level of engagement is expected. The most successful teams tend to engage students that have knowledge in finance/economics, engineering, and communications/outreach at a minimum.

Table 3. Scoring Rubric for Submission Organization and Project Planning

Description	Maximum Possible Points
Organization and Project Planning: The submission provides an achievable and detailed description of: <ul style="list-style-type: none"> • How the team will execute elements of the competition, including how unique obstacles will be overcome, such as academic calendars or virtual collaboration challenges. • How the team will be supported by technical experts to ensure that students can be successful in achieving the competition objectives and how they will advise students throughout the competition. Describe expert team members as well as external mentors. • Which departments across the institution(s) will be involved in the team's participation in the four contests and what level of engagement is expected. 	25

3.5 Diversity, Equity, and Inclusion (25%)

DOE is committed to investing in innovations that deliver benefits to the American public and lead to commercialization of technologies and products that foster sustainable, resilient, and equitable access to clean energy. Further, DOE is committed to supporting the development of more diverse, equitable, inclusive, and accessible workplaces to help maintain the nation’s leadership in science and technology.

As part of the application, teams are required to describe how diversity, equity, and inclusion objectives will be incorporated in the project. Specifically, teams are required to submit a

Diversity, Equity, and Inclusion Plan that describes the actions the applicant will take to foster a welcoming and inclusive environment, support people from groups underrepresented in STEM, advance equity, and encourage the inclusion of individuals from these groups in the project. The plan should also include the extent to which the project activities will be located in or benefit underserved communities. The plan should include at least one SMART (specific, measurable, achievable, relevant, and time-bound) milestone supported by metrics to measure the success of the proposed actions. The Diversity, Equity, and Inclusion Plan should contain the following information:

- Equity Impacts: the impacts of the proposed project on underserved communities, including social and environmental impacts.
- Benefits: The overall benefits of the proposed project, if funded, to underserved communities.
- How diversity, equity, and inclusion objectives will be incorporated in the project.

The following is a non-exhaustive list of actions that can serve as examples of ways the proposed project could incorporate diversity, equity, and inclusion elements. These examples should not be considered either comprehensive or prescriptive. Applicants may include appropriate actions not covered by these examples.

1. Include persons from groups underrepresented in STEM.
2. Include faculty or students from Minority-Serving Institutions.
3. Enhance or collaborate with existing diversity programs at your home organization and/or nearby organizations.
4. Implement evidence-based, diversity-focused education programs as part of your project.

Table 4. Scoring Rubric for Team Submissions to Participate

Description	Maximum Possible Points
Diversity, Equity, and Inclusion: The submission includes: <ul style="list-style-type: none"> • An explanation of the impacts of the team’s participation on underserved communities, including social and environmental impacts. • How diversity, equity, and inclusion objectives will be incorporated in the team’s participation. • At least one SMART milestone supported by metrics to measure the success of the proposed actions. 	25

3.6 Fundraising (15%)

Under Phase 1, \$2,000 will be awarded to each of the winning teams. Under Phase 2, \$15,000 prizes will be awarded to winning teams under Phase 2. Phase 2 winners will be invited to attend a final in-person event. Funds beyond the prize amounts will not be provided for travel or expenses. Prize funds may not cover the full expenses of this project or participation for all students.

- Describe the level of funding you expect your team will need and how the team plans to cover any funding deficit to compete in the full competition.
- Describe what the team will do with the initial Phase 1 funding. Additionally, provide an estimate on what the team would do with the Phase 2 funding should the team receive it.

- Describe any additional resources (e.g., software, educational materials, project planning tools) the team anticipates needing as part of the competition and how the team expects to obtain those resources.

Table 5. Scoring Rubric for Team Submissions to Participate

Description	Maximum Possible Points
Fundraising: The submission includes a detailed and achievable description of how they will seek additional resources (e.g., software, educational materials, project planning tools) they anticipate needing as part of the competition.	15

3.7 Phase 1 Cash Prizes

All teams that are awarded under Phase 1 will receive \$2,000 in cash prizes.

3.8 Other Requirements

Please read and comply with additional requirements in Appendix C.

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

Appendix A. Roles and Responsibilities

Table A-1 shows the competition roles, who performs each role, and what the role entails.

Table A-1. Roles and Responsibilities

Role	Individual(s) Assigned	Definition
Collegiate Team	Multiple	<p>Collegiate team members are led by the student lead and subteam leads under the mentorship of faculty advisors within the rules and requirements of the competition. Teams comprise undergraduate students only, but graduate students may be involved as mentors or advisors. There is no limit to team size. However, the number of students that teams may bring to the competition will be limited based on space requirements. Interdisciplinary teams are encouraged in the following areas of study: engineering, business, marketing, environmental science, communications, policy, and social sciences.</p> <p>Only undergraduate student team members may take an active role in any competition event.</p>
Student Lead(s)	Minimum of one and maximum of three per team	<p>The student lead should take on the primary leadership and organizing responsibilities for the team under simple mentorship from the faculty advisor. In addition, the student lead attends informational sessions, represents the team when communicating with competition organizers, and disseminates information received from the competition organizers over the course of the entire competition, including monitoring communications during the event. The collegiate team student lead is effectively the leader of their collegiate team in all aspects of the competition.</p>
Faculty Advisor	Minimum of one per team starting in Phase 2	<p>Serves as the lead faculty member of a participating school in the competition. This person provides mentorship to the team throughout the competition and provides a supportive environment for student team leads to thrive in. The faculty advisor teaches, advises, and coaches the students on the skills necessary to compete in the various aspects of the competition. Some teams may specify multiple faculty advisors but contact information must be provided for a single faculty adviser who will serve as the lead faculty adviser.</p> <p>Faculty advisors can provide feedback about the team's design so the students can identify mistakes, prove technical rigor, or demonstrate feasibility of their concept. Faculty advisors should not actively work on a wind turbine or make decisions.</p>
Student Mentors	Multiple	<p>Because of their unique perspective, students who have completed their undergraduate degree or graduate students are encouraged to act as mentors to the collegiate team. Similar to the faculty advisors, mentors should provide a supportive environment and the educational background necessary throughout the contest without making active decisions themselves. Student advisors are not to actively work on a wind turbine or make decisions.</p>

Role	Individual(s) Assigned	Definition
Supporting Faculty	Multiple	Supports the faculty advisor in the previously mentioned duties but typically does not directly engage with U.S. Department of Energy (DOE)/National Renewable Energy Laboratory (NREL) Collegiate Wind Competition staff. Supporting faculty are not to actively work on a wind turbine or make decisions.
Competition Manager	DOE	Represents DOE and has the final decision-making authority in all aspects of the competition rules and implementation.
Prize Administrators	NREL	The prize administrator leads correspondence with the collegiate teams regarding contracts, contest questions, and team expectations. During the competition, the prize administrator is the primary point of contact for questions related to engagement with the reviewers, logistics, and protocol. Tasks include developing team schedules, coordinating/collating scores and team feedback from the contests in time for the awards ceremony, and supporting the collegiate teams and reviewers.
Contest Reviewers	To be announced prior to the competition	Conduct and evaluate each contest at the competition. Contest Reviewers may also be referred to as Reviewers.
Competition Judge	Director, WETO	The director of WETO is the judge of the competition and will make all final determinations, which are not appealable.

Appendix B. How the Prize Administrators Will Communicate With Teams

It is each team's responsibility to stay abreast of the latest competition communications from the Prize Administrators. Communication between the teams and the Prize Administrators occurs via one or more of the following:

- **HeroX Forum:** Official communications suitable for viewing by all team members and Prize Administrators will be posted on the competition's HeroX Forum.
- **HeroX Resources:** All CWC resources, templates, and meeting recordings will be uploaded to the HeroX Resources page.
- **Virtual Meetings:** Teams are strongly encouraged to participate in scheduled virtual meetings with the Prize Administrators. Invitations and instructions for participation in these meetings are provided by the Competition Operations Manager(s) via email and on the HeroX Forum.
- **Email:** The official email address for the competition is Collegiate.Wind@nrel.gov; questions should be sent directly to this email address, and answers that may be of interest to all teams will be posted on the competition's HeroX Forum. For expediency and to protect confidentiality, the Prize Administrators may choose to communicate with teams via team members' email addresses as listed in the HeroX database; however, official communications occur via the HeroX Forum.
- **Website:** The CWC website will showcase the various elements of the competition, ongoing collegiate team engagement, and information about how to participate in future competitions. The website will also feature important documents, such as this rules document and example submission templates.

B.1 Branding

Teams are expected to set up a professional space in their team booths at the final event to highlight the team's branding. This can include the concept design, posters, team logo, and school information. The team booths are the teams' chance to showcase all the work they have put into their project over the course of the year and are the best way to communicate their efforts to the industry, especially at a visible industry networking event.

B.2 Reviewing and Scoring

A panel of Contest Reviewers is responsible for scoring team performance in each contest and for each submission. The reviewers will have expertise related to the content they are responsible for evaluating. The panel will include diverse backgrounds that allow the reviewers to evaluate performance from a variety of angles.

Prize Administrators will ensure that reviewers will not:

- Have personal or financial interests in, or be an employee, officer, director, or agent of any entity that is a registered participant in the competition.
- Have a familial or financial relationship with an individual who is a registered participant.
- Provide advice to teams, although they can provide clarification on the reviewing process.
- Discuss team performance with other teams or their advisors.

Names of the selected Contest Reviewers will be announced prior to the final in-person event. Contest Reviewers for midyear submissions may be different than those providing reviews at the final event. The director of WETO is the Judge of the competition and will make the final determination.

B.3 Team Feedback

In an effort to provide as much feedback as possible, teams will receive their scores following completion of the competition. Teams will also receive a short narrative derived from the Contest Reviewers' evaluations after each team's presentation.

B.4 Submissions and Submission Locations

Go to HeroX and follow the instructions for registering and submitting all required materials before the deadline in the beginning of Section 3 and as displayed on the HeroX website.

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. Teams can submit early copies and updated revisions until the deadline. No points will be awarded for a submission that is late.

B.5 Submissions

PDF Requirements

Submitted PDFs must meet the following criteria:

- Have embedded fonts.
- Have all images be a minimum resolution of 300 dpi.

Creating a PDF:

- From scans or by outputting the content into a raster image format (e.g., .jpg, .tiff, .png, or .gif) is not acceptable.
- That is, an all-raster PDF are not permitted because, despite being large files at 300 dpi, they are of unacceptable quality at lower resolutions and are not scalable without degradation.

B.6 Use of Artificial Intelligence

The following are requirements regarding the use of artificial intelligence in competition deliverables:

- Teams must indicate if generative artificial intelligence (AI) was used in any part of their deliverables, including which tool and prompts.
- Teams are not allowed to use verbatim text from a generative AI chatbot as part of their competition deliverables. Chatbots may reuse text from other sources, causing inadvertent plagiarism.
- All human authors of a deliverable are responsible for all of its content. ChatGPT and similar tools cannot be held accountable.

- Citations recommended by any generative AI chatbot must be verified with the original literature because chatbots are known to generate citations that are inaccurate and/or don't exist.
- AI-generated images and/or multimedia used in competition deliverables will not be accepted.
- The organizers may decline to move a deliverable forward in the competition if AI is used inappropriately according to the requirements outlined above.

Appendix C. Additional Terms and Conditions

C.1 Eligibility

In addition to the eligibility requirements specified in Section 3, the following eligibility requirements apply.

- A group of individuals competing as one team may win, provided that the online account holder of the submission is a U.S. citizen or permanent resident. Individuals competing as part of a team are eligible to participate if they are legally authorized 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 six 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 participating in Federal programs are not eligible to compete.
- Individuals participating in a foreign government talent recruitment program⁹ sponsored by a country of risk¹⁰ 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.
- To be eligible, an individual authorized to represent the competitor must agree to and sign the following statement upon registration with HeroX:

⁹ 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.

¹⁰ DOE has designated the following countries as foreign countries of risk: Iran, North Korea, Russia, and China. This list is subject to change.

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.

C.2 Requirements

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

- You must post the final content of your submission or upload the submission form online by the specified time on prize deadline date before the prize's phase submission period closes. 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 C.11. 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 hand-written 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 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.

C.3 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, team, 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: (i) the person/team/entity does not respond to notifications; (ii) the person/team/entity fails to sign and return the required documentation within the required time period; (iii) the notification is returned as undeliverable; (iv) the submission or person/team/entity is disqualified for any other reason as specified in eligibility section in the executive summary or universal content section above.

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.

C.4 Teams and Single-Entity Awards

The Prize Administrator will award a single U.S. dollar amount to the designated home institution of the primary submitter, whether consisting of a single or multiple entities. The home institution of 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.

C.5 Submission Rights

By making a submission and consenting to the rules of the competition, a competitor is granting to DOE, the Prize Administrator, and any other third parties supporting DOE in the competition, 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 competition website, DOE websites, and partner websites, and the inclusion of the submission in any other media worldwide. The submission may be viewed by the DOE, Prize Administrator, and reviewers for purposes of the competition, 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, which participated in the submission on the competition website indefinitely.

By entering, the competitor represents and warrants that:

1. Competitor's entire submission is an original work by competitor and 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 (i) otherwise requested by the Prize Administrator and/or disclosed by competitor in the submission, and (ii)

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 Prize Administrator, or the exercise by 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;
 - 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.

C.6 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.

C.7 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.

C.8 Resolution of Disputes

The U.S. Department of Energy is solely responsible for administrative decisions, which are final and binding in all matters related to the competition.

Neither the U.S. Department of Energy nor the Prize Administrator will arbitrate, intervene, advise on, or resolve any matters between team members or among competitors.

C.9 Publicity

The winners of these prizes (collectively, “winners”) will be featured on the DOE and NREL websites.

Except where prohibited, participation in the competition constitutes each winner's consent to DOE's 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.

C.10 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 competition. 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 competition, whether the claim or cause of action arises under contract or tort.

In accordance with the delegation of authority to run this competition delegated to the director of the Wind Energy Technologies Office, the director has determined that no liability insurance naming DOE as an insured will be required of competitors to compete in this competition per 15 USC 3719(i)(2).

Competitors should assess the risks associated with their proposed activities and adequately insure themselves against possible losses.

C.11 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 submission. 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 submission 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 FOIA representative prior to the release of materials.

C.12 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.

C.13 General Conditions

DOE reserves the right to cancel, suspend, and/or modify the contests, 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 contests, as determined by DOE in its sole discretion, DOE may cancel the competition. 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 phase, 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.

C.14 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 level of industry involvement and demonstrated ability to accelerate commercialization and overcome key market barriers.
- The degree to which the submission is likely to lead to increased employment and manufacturing in the United States or provide other economic benefit 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 for the demonstration of technologies and research applications to facilitate technology transfer.

C.15 National Environmental Policy Act (NEPA) Compliance

DOE's administration of the Collegiate Wind Competition is subject to NEPA (42 USC 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. Participants may be asked to provide DOE with information on fabrication and testing of their devices such that DOE can conduct a meaningful evaluation of the potential environmental impacts.

C.16 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 COMPETITION.