Official Rules

American-Made Large Animal and Solar System Operations (LASSO) Prize

Standard Track Phase 1 and Phase 2A

Operating Projects Track Phase 1

September 2024

Preface

The U.S. Department of Energy's American-Made Large Animal and Solar System Operations (LASSO) Prize will be governed by 15 U.S.C. §3719 and this Official Rules document. This is not a procurement under the Federal Acquisitions Regulations and will not result in a grant or cooperative agreement under 2 Code of Federal Regulations 200. The Prize Administrator reserves the right to modify this Official Rules document if necessary and will publicly post any such notifications as well as notify registered prize competitors.

Contents

Preface 2
1 Executive Summary 6
1.1 Prizes 8
1.1.1 Standard Track Prizes 8
1.1.2 Operating Projects Track Prizes 9
1.2 Prize Tracks and Phases 9
1.2.1 Standard Track Overview 9
1.2.2 Operating Projects Track 10
1.2.3 Bonus Prizes 11
1.3 Key Dates 12
1.3.1 Standard Track Key Dates 12
1.3.2 Operating Projects Track Key Dates 13
1.4 Eligibility and Competitors 14
1.4.1 General Eligibility 14
1.4.2 Track Specific Eligibility 17
1.4.3 Applying to Multiple Tracks 17
1.4.4 Competitors on Multiple Submissions 17
1.4.5 Bonus Prize Eligibility 17
2 Background 18
2.1 Prize Background 18
2.2 Program Goal Requirements 19
2.3 Diversity, Equity, Inclusion, and Accessibility 19
2.5 Applications Not of Interest 20
2.6 Additional Requirements 20
3 Prize Rules: Standard Track Phase 1 21
3.1 Goal 21
3.2 Prizes 21
3.3 How to Enter 21
3.4 Important Dates 21
3.5 Standard Track Phase 1 Prize Process 21
3.6 What to Submit 22
3.6.1 Team and Project Information 23
3.6.2 Narrative 25
3.6.3 Submission Summary Slide (Will Be Made Public) 27
3.6.4 Letters of Support (Required) 27
3.6.5 Supporting Documentation (Optional) 27
3.7 How We Determine and Award Winners 28
3.7.1 Scoring Criteria 28
3.7.2 Reviewer Panel Scoring 30
3.7.3 Interviews 31
3.7.4 Final Determination 31
3.7.5 Announcement 31

3.8 Additional Terms and Conditions 31
4 Prize Rules: Standard Track Phase 2 32
4.1 Goal 32
4.2 Prizes 32
4.3 How to Enter 33
4.4 Important Dates 33
4.5 Prize Steps—Phase 2A 33
4.5.1 Phase 2A Prize Steps 33
4.6 What to Submit: Phase 2A 34
4.6.1 Updated Team and Project Information 34
4.6.2 System Details and Documentation 35
4.6.3 Narrative 37
4.6.4 Letters of Support (Optional) 41
4.6.5 National Environmental Policy Act Determination Documentation 42
4.7 Scoring and How Award Winners Are Determined—Phase 2A 42
4.7.1 Scoring Criteria 42
4.7.2 Reviewer Panel Scoring 44
4.7.3 Interviews 45
4.7.4 Final Determination 45
4.7.5 Announcement 45
5 Prize Rules: Operating Projects Track Phase 1 46
5.1 Goal 46
5.2 Prizes 46
5.3 How to Enter 46
5.4 Important Dates 46
5.5 Operating Projects Track Phase 1 Prize Process 46
5.6 What to Submit 48
5.6.1 Team and Project Information 48
5.6.2 Narrative 50
5.6.3 Submission Summary Slide (Will Be Made Public) 53
5.6.4 Letters of Support (Required) 53
5.7 How Award Winners are Determined 54
5.7.1 Scoring Criteria 54
5.7.2 Reviewer Panel Scoring 56
5.7.3 Interviews 56
5.7.4 Final Determination 56
5.7.5 Announcement 57
5.8 Additional Terms and Conditions 57
6 Bonus Prizes 58
6.1 What to Submit: Largest Photovoltaic System Bonus Prize 58
6.1.1 How We Determine Winners and Scoring Criteria 58

Appendix 1: Additional Terms and Conditions 59
A.1 Requirements 59
A.2 Verification for Payments 60
A.3 Competitors and Single-Entity Awards 60
A.4 Treatment of Submission Materials 61
A.5 Representation and Warranties 62
A.6 Contest Subject to Applicable Law 62
A.7 Resolution of Disputes 63
A.8 Publicity 63
A.9 Liability 63
A.10 Records Retention and Freedom of Information Act 64
A.11 Privacy 64
A.12 General Conditions 64
A.13 Program Policy Factors 65
A.14 National Environmental Policy Act Compliance 66
A.15 Definitions 66
A.16 Return of Funds 66

1 Executive Summary

The U.S. Department of Energy (DOE) Solar Energy Technologies Office (SETO) is launching the American-Made Large Animal and Solar System Operations (LASSO) Prize. This $8.2 million prize supports the design and demonstration of cost-effective co-location of photovoltaic (PV) systems with cattle grazing.

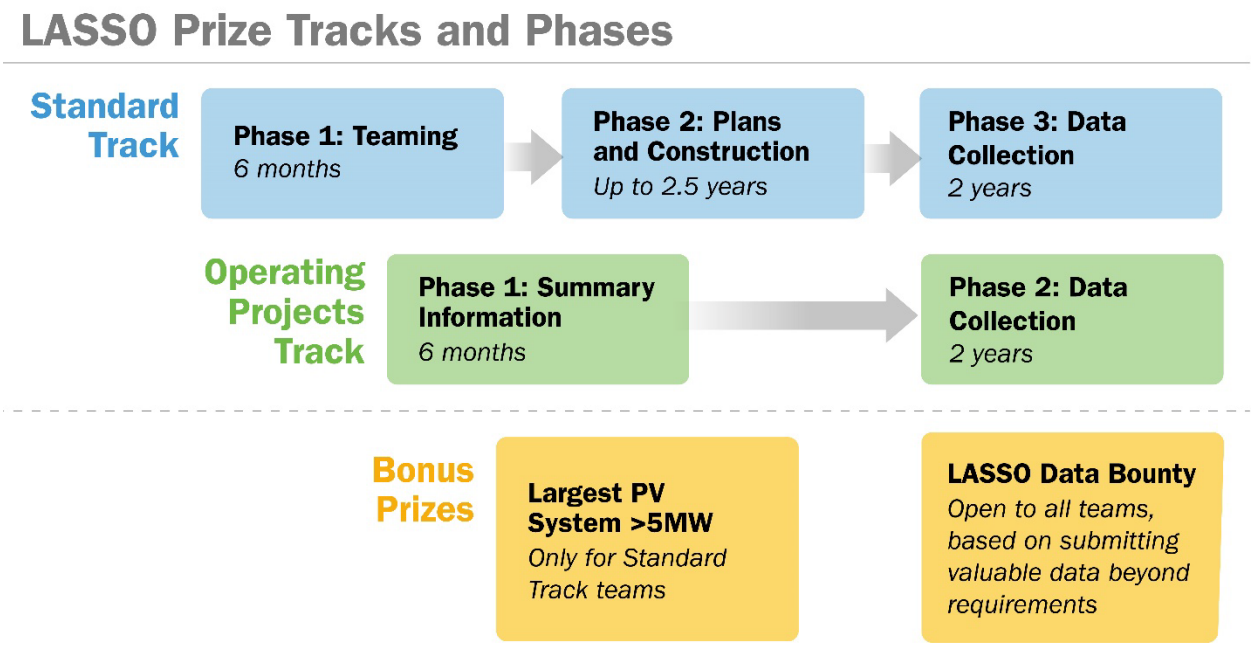
The LASSO Prize aims to establish and expand cattle agrivoltaics sites across the United States and to gather comprehensive data and develop best practices for the co-location of solar and cattle grazing. Through a multiphase competitive approach, the prize will incentivize developers, farmers and ranchers, researchers, and other stakeholders to collaborate and develop innovative solar cattle grazing systems and practices. Key goals include:

- Collecting valuable data on costs, impacts, and operations of different cattle agrivoltaics sites across the United States
- De-risking cattle agrivoltaics designs and operations to facilitate wider adoption
- Showcasing successful cattle agrivoltaics business and operational models.

By highlighting the dual benefits of energy production and agriculture, the prize aims to support the United States in meeting its decarbonization goals while ensuring sustainable land use.

There are two tracks in the prize: the Standard Track and the Operating Projects Track. The Standard Track is structured to run in several phases, each phase focusing on different aspects of a project, including teaming, system and grazing plan design, construction, implementation, and multiyear data collection. The Operating Projects Track is only for operational cattle agrivoltaics projects and focuses on team building and data collection.

Two bonus prizes will be awarded. The Largest PV System Bonus Prize will be awarded to the team with the largest DC-rated PV system over 5 MW-dc from eligible Standard Track Phase 2B submissions. The second bonus prize, the Data Bounty Bonus Prize, will be awarded to the team from Standard Track Phase 3 or Operating Projects Track Phase 2 that submits the datasets and analyses deemed most valuable and that go above and beyond the minimum requirements.



The prize is open to teams of U.S.-based individuals and organizations ("competitors"), including solar developers, ranchers, and farmers. Additionally, the prize encourages teams to include members who are hardware or software manufacturers, local governments, utilities, commodity organizations, historically underserved producers,[1] researchers, Extension programs, and/or universities with expertise in cattle research and agrivoltaics. Successful submissions for the LASSO Prize will demonstrate integration of PV with cattle grazing, promote sustainable agricultural and energy practices, enhance land use efficiency, and support rural economies. **Note that cattle agrivoltaics entails the co-location of solar and cattle grazing and does not include rooftop PV systems, projects without interaction between the cattle and the PV array, or projects with any livestock other than cattle.**

This prize document encompasses the official rules for:

- Standard Track: Phase 1 and Phase 2A
- Operating Projects Track: Phase 1.

Rules for subsequent phases—Standard Track Phase 2B and Phase 3 and Operating Projects Track Phase 2—will be released ahead of the respective phase opening dates. See Section 1.2 and Section 1.3 for more information.

[1] Historically Underserved Farmers and Ranchers | Natural Resources Conservation Service. https://www.nrcs.usda.gov/getting-assistance/underserved-farmers-ranchers.

1.1 Prizes

Winning teams from the Standard Track and Operating Projects Track will split a combined cash prize pool of up to $8.2 million between all phases of the prize as shown below. The Prize Administrator reserves the right to amend the total prize amount and/or number of awards in either or both tracks if it does not receive a sufficient number of applications in the Standard Track or in the Operating Projects Track.

1.1.1 Standard Track Prizes

Standard Track Prizes				
Phase		**# Awards**	**Cash Prize Award Per Team**	**Total Prize Pool**
Standard Track				
Phase 1		Up to 14	$50,000	$700,000
Phase 2	2A	Up to 7	$225,000	$1,575,000
	2B	Up to 7	$225,000	$1,575,000
	Bonus Prize: Largest PV System >5 MW-dc	Up to 1	$100,000	$100,000
Phase 3	3A	Up to 7	$100,000	$700,000
	3B	Up to 7	$100,000	$700,000
	3C	Up to 7	$100,000	$700,000
	3D	Up to 7	$100,000	$700,000
	Bonus Prize: Data Bounty*	Up to 1	$100,000	$100,000
Total			Up to $1,100,000 (including bonus prizes)	$6,850,000

*Note: A single award will be given for the Data Bounty bonus prize, selected from the total applicant pool inclusive of both the Standard and Operating Projects Tracks.

1.1.2 Operating Projects Track Prizes

Operating Projects Track Prizes				
Phase		# Awards	Cash Prize Award Per Team	Total Prize Pool
Phase 1		Up to 3	$50,000	$150,000
Phase 2	2A	Up to 3	$100,000	$300,000
	2B	Up to 3	$100,000	$300,000
	2C	Up to 3	$100,000	$300,000
	2D	Up to 3	$100,000	$300,000
Bonus Prize: Data Bounty*			$100,000	$100,000
Total			Up to $550,000 (including bonus prize)	$1,450,000

*Note: A single award will be given for the Data Bounty bonus prize, selected from the total applicant pool inclusive of both the Standard and Operating Projects Tracks.

1.2 Prize Tracks and Phases

1.2.1 Standard Track Overview

Phase 1: Team Formation and Project Planning. Competitors (either individuals or organizations) will form teams composed of solar developers (required); cattle ranchers or farmers (required); and other stakeholders (optional) such as landowners, extension agents, historically underserved producers, research organizations, local utilities, product developers, and commodity organizations. In Phase 1, teams are asked to identify at least one potential site and develop a plan for integrating PV systems with cattle grazing. Submission requirements include team information, project details, a comprehensive narrative, a summary slide, and letters of support. The goal of Phase 1 is to lay the groundwork for Phase 2 and Phase 3, ensuring that competitors have a solid foundation and a feasible plan for their cattle agrivoltaics projects.

Phase 2 – Phase 2 is divided into 2 subphases: 2A and 2B.

> **Phase 2A: Detailed Planning, Design, and Permitting.** In Phase 2A, teams will refine their project plans; finalize system design; and complete thorough project due diligence including receiving engineering designs and drawings, completing energy production modeling, receiving applicable land use permits or approvals, and submitting an interconnection application. This phase requires updated team information, detailed system specifications, and a comprehensive narrative addressing design enhancements or adjustments,

construction timelines, cattle integration plans, and data collection strategies for Phase 3. Successful completion of this phase will prepare teams for the construction and data collection phases. Note: teams must obtain National Environmental Policy Act (NEPA) determination prior to the conclusion of Phase 2A to be eligible for a Phase 2A award. Teams are encouraged to begin the NEPA determination process as soon as they have been notified of their Phase 1 award and a minimum of 60 days before the submission deadline.

Phase 2B: Construction and Initial Operation. Teams will construct their agrivoltaics systems and demonstrate operational viability. Submissions must include evidence of completed construction, photos of the system, inspection reports, and proof of cattle integration. This phase is crucial for verifying that the systems are built as planned and are operationally ready for data collection in Phase 3. DOE and the Prize Administrator may conduct site visits during Phase 2B. Note: rules for Standard Track Phase will be released ahead of the ahead of the phase opening date.

Phase 3: Data Collection and Analysis. Over the course of two years, with four submission deadlines (subphases 3A–3D, every six months), teams will collect and report data on system performance, energy production, operations and maintenance (O&M), cattle health, and agricultural outcomes, at a minimum. Submissions are anticipated to include total energy production data for each subphase, O&M procedures and events, and animal growth and health metrics. Teams may also collect and share additional data points of interest, including detailed time-series energy production data, data on soil quality and plant health, hydrologic function and water management, community perceptions, or other pieces of information the team considers meaningful. These supplementary datasets can contribute to teams' submissions to the Data Bounty Bonus Prize (see Section 1.2.3 below). It is also anticipated that teams will be required to host community events. This phase aims to generate valuable insights into the viability and trade-offs of cattle agrivoltaics systems, contributing to an understanding of best practices and wider adoption of cattle agrivoltaics. Note: rules for Standard Track Phase 3 will be released ahead of the phase opening date.

1.2.2 Operating Projects Track

Phase 1: Documentation of Existing Projects. Teams with eligible cattle agrivoltaics systems that are fully operational by the Phase 1 application deadline and that are over 250 kW-dc will submit comprehensive project documentation, including team information, system specifications, cost information (which will not be made public), and cattle integration details. The goal of this phase is to

collect information on the design and operational aspects of these systems in preparation for Phase 2.

Phase 2: Data Collection and Reporting. Over the course of two years, with four submission deadlines (subphases 2A–2D, every six months), teams will collect and report data on system performance, O&M, energy production, cattle health, and agricultural outcomes. Submissions are anticipated to include total energy production data for each subphase, O&M procedures and events, and animal growth and health metrics. Teams may also collect and share additional data points of interest, including detailed time-series energy production data, data on soil quality and plant health, hydrologic function and water management, community perceptions, or other pieces of information the team considers meaningful. These supplementary datasets can contribute to teams' submissions to the Data Bounty Bonus Prize (see Section 1.2.3 below). It is also anticipated that teams will be required to host community events. This phase aims to generate valuable insights into the viability and trade-offs of cattle agrivoltaics systems, contributing to an understanding of best practices and wider adoption of cattle agrivoltaics. Note: rules for Operating Projects Track Phase 2 will be released ahead of the phase opening date.

1.2.3 Bonus Prizes

The LASSO Prize offers two bonus prizes—the Largest PV System Bonus Prize and the Data Bounty Bonus Prize:

- **Largest PV System**: The Largest PV System Bonus Prize will be awarded to the team with the largest operational DC-rated PV system over 5 MW-dc from eligible Standard Track Phase 2B submissions. This bonus prize encourages teams to build high-capacity PV systems that push the boundaries of current U.S. cattle agrivoltaics operations.
    - Note: Only the capacity of the PV systems that cattle interact with will be counted toward the system size in determining the winner of this bonus prize (i.e., if a team's project includes a 6 MW-dc PV system, but cattle only graze under and around a 5 MW-dc portion of the system, only that 5 MW-dc will be considered toward the Bonus Prize).

- **Data Bounty:** The Data Bounty Bonus Prize will be awarded to the team that shares the most valuable, information-rich datasets and analyses from their cattle agrivoltaics projects that go above and beyond the minimum data requirements. This may include detailed time-series energy production data, data on soil quality and plant health, hydrologic function and water

management, community perceptions, or other pieces of information the team considers meaningful. This bonus prize aims to promote transparency, collaboration, and the sharing of insights that can benefit the broader agrivoltaics community. Submissions from both Standard Track Phase 3 and Operating Projects Track Phase 2 are eligible for this bonus prize; however, the winner will not be announced until the end of the Standard Track Phase 3. See Section 1.3. Full rules for the Data Bounty bonus prize will be released ahead of Phase 2 opening date.

Both bonus prizes are designed to incentivize exceptional performance beyond the core requirements of the LASSO Prize.

1.3 Key Dates

Please see the tables below for key LASSO Prize dates.

1.3.1 Standard Track Key Dates

Date	Standard Track Events
Phase 1 (September 2024–May 2025)	
September 10, 2024	Open for Phase 1 Submissions
September 24, 2024, 1 p.m. ET	Phase 1 Informational Webinar: https://nrel.zoomgov.com/webinar/register/WN_Rt4JSOcyTbqsJBzuzXhjjQ
March 6, 2025, 5 p.m. ET	Phase 1 Submission Deadline
May 2025	Phase 1 Winner Announcement (Anticipated)
Phase 2 (May 2025–March 2028)	
May 2025*	Phase 2A Open for Submissions
November 27, 2025, 5 p.m. ET May 28, 2026, 5 p.m. ET	Phase 2A Submission Deadlines[2]

[2] Approximately 30–60 days after each Phase 2A submission deadline, the Prize Administrator will publicly announce the winners, notify the winners, and request the necessary information to distribute the prizes. Phase 2A has multiple submission deadlines to accommodate projects developing on different timelines.

November 26, 2026, 5 p.m. ET	
February 2027	Final Phase 2A Winners Announced
February 2027*	Phase 2B Open for Submissions
February 9, 2028, 5 p.m.	Phase 2B Submission Deadline
March 2028*	Final Phase 2B Winners Announced
Phase 3 (April 2028–May 2030)	
April–September 2028*	Phase 3A Data Collection Period
October 19, 2028, 5 p.m. ET	Phase 3A Submission Deadline
October 2028–March 2029*	Phase 3B Data Collection Period
April 19, 2029, 5 p.m. ET	Phase 3B Submission Deadline
April 2029–September 2029*	Phase 3C Data Collection Period
October 18, 2029, 5 p.m. ET	Phase 3C Submission Deadline
October 2029–March 2030*	Phase 3D Data Collection Period
April 18, 2030, 5 p.m. ET	Phase 3D Submission Deadline and Final Report Deadline Data Bounty Prize Submission Deadline
May 2030*	Data Bounty Prize Winner Announced
Winners for Phases 3A–3D will be announced, and awards will be paid, approximately 30–60 days following each submission deadline.	

*Exact dates TBD.

1.3.2 Operating Projects Track Key Dates

Date	Operating Projects Track Events
Phase 1 (September 2024–May 2025)	
September 10, 2024	Open for Phase 1 Submissions
September 24, 2024, 1 p.m. ET	Phase 1 Informational Webinar: https://nrel.zoomgov.com/webinar/register/WN_Rt4JSOcyTbqsJBzuzXhjjQ

March 6, 2025, 5 p.m. ET	Phase 1 Submission Deadline
May 2025	Phase 1 Winner Announcement (Anticipated)
Phase 2 (June 2025–May 2027)	
June–November 2025*	Phase 2A Data Collection Period
December 18, 2025, 5 p.m. ET	Phase 2A Submission Deadline
December 2025–May 2026*	Phase 2B Data Collection Period
June 18, 2026, 5 p.m. ET	Phase 2B Submission Deadline
June–November 2026*	Phase 2C Data Collection Period
December 17, 2026, 5 p.m. ET	Phase 2C Submission Deadline
December 2026–May 2027*	Phase 2D Data Collection Period
June 17, 2027, 5 p.m. ET	Phase 2D Submission Deadline and Final Report Deadline Data Bounty Prize Submission Deadline
May 2030*	Data Bounty Prize Winner Announced (date aligned with Standard Track)
Winners for Phases 2A–2D will be announced and awards will be paid approximately 30–60 days following each submission deadline.	

*Exact dates to be determined

1.4 Eligibility and Competitors

1.4.1 General Eligibility

The information below applies to both the Standard and Operating Projects Tracks.

Only submissions relevant to the program goal requirements laid out in Section 2.2 of this document will be considered for an award. The Prize Administrator has the right to refuse any submission for incompleteness or unresponsiveness to the program goal requirements.

The prize is open only to the following:

- Private entities (for-profits and nonprofits)
- Non-Federal government entities such as states, counties, Tribes, and municipalities

- Academic institutions
    - Note: national laboratories are not eligible to compete on teams, but they may support teams in the competition if they are engaging in compliance with lab partnership requirements.
- Individuals who are citizens or legal permanent residents of the United States

Teams are subject to the following requirements:

- The lead applicant must be based in the United States.
- The online account holder of the submission must be a U.S. citizen or permanent resident.
- All individuals on the team must be legally authorized to work in the United States.
- The project site must be in the United States.
- Teams **must include** a U.S.-based solar developer and a U.S.-based rancher or farmer.
- Project PV systems must be a minimum of 250 kW-dc[3] total. Note: only the capacity of the PV system that the cattle actually graze under and around will be counted toward system size for determining winners (e.g., a 4 MW-dc PV array with only 250 kW-dc that cattle graze under will be counted as a 250 kW-dc system when system size is considered for awards).
- Private entities must be incorporated in and maintain a primary place of business in the United States.
- Academic institutions must be based in the United States.
- DOE employees, members of their immediate families (e.g., spouses, children, siblings, or parents), and persons living in the same household as such persons, whether related or not, 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 phase are not eligible to participate in any prize phases in this prize.

[3] Larger systems are desirable, see Section 3.7.4 (Standard Track) and Section 5.7.4 (Operating Projects Track).

- Federal entities and federal employees are not eligible to participate in any portion of 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 program[4] sponsored by a country of risk[5] 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 team must agree to and sign the following statement upon registration with HeroX:

> 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.

[4] A 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 U.S. research facilities or receipt of federal research funds while concurrently working at and/or receiving compensation from a foreign institution, and some direct competitors 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.

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

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

1.4.2 Track Specific Eligibility

Teams with existing arrays that plan to introduce cattle to their systems or make alterations to existing arrays before introducing cattle are eligible for the Standard Track. Teams with cattle agrivoltaics systems already built and operational, with cattle integrated, at the time of the Phase 1 application deadline are ineligible for the Standard Track but may be eligible for the Operating Projects Track. See Section 5 for details.

1.4.3 Applying to Multiple Tracks

Projects may only be submitted to a single track, either to the Standard Track or to the Operating Projects Track.

1.4.4 Competitors on Multiple Submissions

Competitors are allowed to be a part of multiple teams and/or submissions. Each submission must be for a distinct project or system (i.e., has unique location, design parameters, and team) and meet all eligibility criteria specified in the rules. However, a competitor may only be the lead on one submission.

1.4.5 Bonus Prize Eligibility

The Largest PV System Bonus Prize is open to teams in **Standard Track Phase 2B**. All eligible teams from this phase will automatically be considered for the bonus prize, with no additional submission materials required.

The Data Bounty Bonus Prize is open to teams in both the **Standard Track Phases 3A–3D** and **Operating Projects Track Phases 2A–2D**. Teams must submit additional information-rich datasets and reports by the end of Phase 3 (Standard Track) or the end of Phase 2 (Operating Projects Track) to be eligible. See Section 1.3 for key dates.

2 Background

2.1 Prize Background

Analysis of potential pathways toward a carbon-free electricity system indicate that the United States may need to deploy almost 1 terawatt of PV capacity by 2035, which could require approximately 6 million acres of land.[6] Despite positive attitudes toward PV systems among most people who live close to one, local opposition to development and issues related to land use are becoming more frequent barriers to PV deployment, with more local jurisdictions passing restrictions or bans on new renewable energy deployment.[7] Developers cite local opposition as a primary factor in project delay or cancellation. One major concern is the conversion of agricultural land and the impact such conversion has on local communities and farmers or ranchers.

Agrivoltaics has the potential to reduce land-use conflict. Most of the Solar Energy Technologies Office's agrivoltaics research is focused on co-locating PV systems with pollinator habitat, specialty crops, or small animals that can help manage vegetation (primarily sheep), each with multiple existing examples in the United States. Resources[8] are available for agricultural producers, landowners, and developers to learn about agrivoltaics implementation and best practices.

According to the U.S. Department of Agriculture, 29% of the land in the United States is grassland and pasture range,[9] primarily used for cattle. Co-location of cattle grazing and PV systems is a major opportunity to reduce land use conflict, preserve agricultural land, increase landowner and farmer/rancher revenues, and may also benefit animal welfare and plant and soil health while easing some of the barriers to solar energy deployment. Stakeholders have indicated the primary barriers to co-location of cattle grazing and PV systems are added costs (e.g., to increase structural support) and the lack of examples and information that show viability and validate the benefits. This prize will bring together solar developers; farmers or ranchers; and other stakeholders to form teams; build pilot sites; and collect data on best practices, costs, applicable business models, and associated energy and agricultural outcomes.

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[6] U.S. Department of Energy. Solar Futures Study. https://www.energy.gov/eere/solar/solar-futures-study.
[7] Impact of Siting Ordinances on Land Availability for Wind and Solar Development. https://www.nrel.gov/docs/fy24osti/87476.pdf; Understanding Support & Opposition to Large-Scale Renewable Energy Projects. https://live-etabiblio.pantheonsite.io/sites/default/files/ccsd_t2_results_summary_final.pdf.
[8] Agrivoltaics: Solar and Agriculture Co-Location. https://www.energy.gov/eere/solar/agrivoltaics-solar-and-agriculture-co-location.
[9] U.S. Department of Agriculture Economic Research Service. Maps and State Rankings of Major Land Uses. https://www.ers.usda.gov/data-products/major-land-uses/maps-and-state-rankings-of-major-land-uses/.

2.2 Program Goal Requirements

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

- The designs and business models described in the submission have the potential to benefit the United States.
- The activities or proposed activities do not involve the lobbying of any federal, state, or local government office.
- The projects described in the submission involve the co-location of cattle grazing and a solar photovoltaic (PV) system.
- The cattle agrivoltaics system described in the submission has a **rated capacity of at least 250 kW-dc**; larger systems are desirable. See Section 3.7.4 (Standard Track) and Section 5.7.4 (Operating Projects Track).
- If the cattle interact with only a portion of the total PV system, that portion has a capacity of at least 250 kW-dc.
- The cattle agrivoltaics design and business model described in the submission could be translated and/or scaled to other locations in the United States.

2.3 Diversity, Equity, Inclusion, and Accessibility

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 such, teams are encouraged to incorporate diversity, equity, inclusion, and accessibility into their projects.

2.4 National Environmental Policy Act Determinations

NEPA was signed into law on January 1, 1970. NEPA requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions. Competitors who win Standard Track Phase 1 and move on to Standard Track Phase 2A will be **required to complete the NEPA process and receive NEPA determination for their projects in order to be eligible for a Phase 2A award**. Teams that do not receive NEPA determination will not be eligible for a Phase 2A award. See Section 4.6.5. Teams in the Operating Projects Track with existing systems do not need to obtain a NEPA determination.

NEPA determinations are made by DOE's NEPA Office, not by the Prize Administrator.

2.5 Applications Not of Interest

Applications that do not present strategies that address the goals specified in Section 2.2 (Program Goal Requirements) will not be considered:

- Applications in which the PV system capacity is rated less than 250 kW-dc will not be considered.
- Applications in which the PV system is in part, or wholly, on a roof, or in which where there is no significant interaction between the cattle and the PV system will not be considered.
- Applications in which cattle graze under/around a portion of the PV system with rated capacity less than 250 kW-dc (even if the total system is larger than 250 kW-dc) will not be considered.
- Applications for co-location of PV systems with livestock other than cattle, such as sheep, goats, bison, rabbits, etc., will not be considered.

2.6 Additional Requirements

Please read and comply with the additional requirements in Appendix 1.

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

3 Prize Rules: Standard Track Phase 1

3.1 Goal

The first phase of the Standard Track of the LASSO Prize aims to incentivize competitors to form teams that collectively have the resources and expertise to design and pilot practical approaches that demonstrate the feasibility and benefits of cattle agrivoltaics systems. Note that cattle agrivoltaics entails the co-location of solar and cattle grazing and **does not include systems where the PV is on a roof or in which where there is no significant interaction between the cattle and the PV system**. Competitors participating in Phase 1 will form teams, identify at least one potential site, and describe a plan for co-locating PV with cattle grazing. This phase is designed to lay the groundwork for Phase 2 where teams will design and build their agrivoltaics systems.

3.2 Prizes

Phase 1 of the Standard Track of the LASSO Prize offers up to 14 cash prizes of $50,000 each. The total prize pool is up to $700,000 in cash awards.

Teams must win Phase 1 to participate in Phase 2. For additional Standard Track eligibility, please see Section 1.4.

3.3 How to Enter

Go to HeroX, click on the "Solve This Challenge" button, and follow the instructions for registering and submitting all required materials before the submission deadline. Competitors can also form teams or find partners through the HeroX platform via the teaming resource.[10] It is the competitors' responsibility to use this resource, reach out, and form their own teams, should they so desire.

3.4 Important Dates

Refer to the timeline on HeroX and in Section 1.3 for relevant dates and deadlines.

3.5 Standard Track Phase 1 Prize Process

This phase of the prize consists of the following steps:

[10] LASSO Prize Teaming Form. https://www.herox.com/LASSO/resource/1934.

1. **Submission**—Competitors form teams and then develop and submit comprehensive project proposals for integrating PV with cattle grazing. Teams must complete their submissions online before the submission deadline.
2. **Evaluation**—The Prize Administrator screens submissions for eligibility and completion and assigns subject matter experts as reviewers to independently score the content of each submission. The reviewers evaluate the following criteria for each submission:
    - **Category 1—Organizations, Partnerships, and Collaboration:** Each team member's mission, history, expertise, and role in the project
    - **Category 2—Proposed Project Design:** The overall approach for integrating PV with cattle grazing, including the preliminary PV system design; site layout; basic grazing plan; and any innovative operational, business, or financial arrangements as well as the plan for installation of the PV system, including any considerations regarding the soil, cattle, and/or other factors
    - **Category 3—Benefits, Impact, and Scalability:** The plans for outreach and education efforts in the community, plans for specific benefits to the community, and the potential for scaling
3. **Announcement**—After the winners are publicly announced, the Prize Administrator notifies them and requests the necessary information to distribute cash prizes.

3.6 What to Submit

A complete submission package should include the following items:

- **Team and Project Information** (required; select elements will be made public)
- **Narrative** (required; will not be made public)
- **Summary PowerPoint Slide** (required; will be made public; applicants may use the template[11] provided through HeroX[12])
- **Letters of Support** (required; will not be made public)

[11] To assist Teams, the Prize Administrator is providing an elective template to illustrate the types of information needed to evaluate Teams. Teams are not required to use this template and may submit using any form or format of their choosing. However, all submissions should address the substantive measures outlined in the template and described in this Rules document.
[12] Optional Template: Submission Summary Slide. https://www.herox.com/upskillprize/resource/1915.

- **Supporting Documentation** (optional; will not be made public).

The following sections give guidance on what information to provide and how reviewers will evaluate and score your submission. Reviewers will evaluate your submission by assigning a single score (0–6) for each scored submission section, based on their overall agreement or disagreement with a series of statements.

0	1	2	3	4	5	6
Non-responsive	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

3.6.1 Team and Project Information

Enter the basic information listed below and upload the requested documentation about your submission directly on the HeroX submission form. The HeroX submission form specifies the same required information and documentation. Note that each team will be made up of multiple team members ("competitors") as outlined in the eligibility criteria. See Section 1.4. The team will put forward one competitor to be the lead competitor. The lead competitor will be the main point of contact and in charge of submissions and distribution of winnings. See Section A.2 for more information.

Elements marked with an asterisk (*) will be made public.

Team Information (submitted via HeroX submission form)

- Project title*
- Lead competitor name*
- Lead competitor type (cattle rancher/farmer, dairy farmer, landowner, solar developer, historically underserved producer organization, product developer, commodity organization, utilities, universities, other [please specify])
- Lead competitor address (street, city, state, and nine-digit ZIP code)
- Lead competitor contact information (email, phone number, and links to any professional online profiles)
- Lead competitor resume or curriculum vitae (CV)

- For each other competitor on the team, please provide:
    - Competitor name
    - Resume / CV
    - Competitor type
    - Contact information (email, phone number, and links to any professional online profiles)
    - Brief description of role/contribution to the project.
- **Document Upload:** Upload a spreadsheet or chart detailing each competitor's role on the team in the proposed project (e.g., a RASIC[13] chart).

Project Information (submitted via HeroX submission form)

- Anticipated project site location(s) (county/municipality and state)
- Site control status for each potential site (e.g., owned by a team member, under an active lease agreement, etc.)
- Anticipated total PV system capacity (kW-dc)
    - Note: Systems must have a minimum capacity of 250 kW-dc, but larger systems are desirable (see Section 1.4 for information on eligibility and Section 3.7.4 for information on how we determine winners). If the cattle interact with only a portion of the total PV system, that portion must have a capacity of at least 250 kW-dc.
- Quantity and description of cattle that will be or are anticipated to be part of the project and interact with the PV system. Description of cattle should include breed(s), animal age range, and whether the cattle are beef or dairy cattle.
- Executive Summary (250 word maximum) consisting of an overview of the project concept and its potential impact

[13] A RASIC chart is a project management tool used to clarify roles and responsibilities within a team or organization. The acronym RASIC stands for: Responsible (the person(s) who do the work to achieve the task, with the possibility of multiple responsible individuals), Approver (the person who makes the final decision and has ultimate ownership, typically one), Support (the person(s) who provide assistance or resources needed to complete the task), Informed (the person(s) who need to be kept informed about the task's progress and completion), and Consulted (the person(s) who need to be consulted for their input or advice).

- **Document Upload:** Upload a high-level Gantt chart[14] or other project management chart identifying key resources, tasks, and milestones.

3.6.2 Narrative

Every submission must address each of the following three categories. The content bullets are only suggestions to guide your responses. Responses for each category do not have a word limit; however, **your aggregate response in the narrative document must not exceed 5,000 words**, not including captions, figures, graphs, and/or references. A word count must be included at the end of your submission. The submission summary slide, letters of support, and supporting documentation do not count against this word count. You may also include **up to ten supporting photos, images, figures, or graphs**. The reviewers will score the questions based on the content you have provided.

Narrative Maximum 5,000 words and up to ten supporting images or figures (PDF)
Category 1—Organizations, Partnerships, and Collaboration List partners, their roles, and their contributions
Suggested content team provides: • **Lead Competitor:** Briefly describe yourself/your organization, including mission/goals, history, and areas of expertise. Explain your role in the project and why you are well-suited to lead this agrivoltaics initiative. Highlight any previous experience with similar projects or relevant accomplishments. • **Other Team Members:** Briefly describe the other team members, including mission/goals, history, and areas of expertise. Explain each member's roles and what they will contribute to the project. Highlight any previous experience with similar projects or relevant accomplishments.

[14] A Gantt chart is a visual project management tool that shows a project's schedule. It uses horizontal bars to represent tasks, indicating their start and end dates.

Category 2—Proposed Project Design

Provide a high-level overview of your proposed agrivoltaics system, showcasing your initial ideas and plans for integrating solar energy production with cattle grazing

Suggested content team provides:

- **Project Overview:** Provide an overview of your proposed approach for integrating PV with cattle grazing.
- **System Design:** Discuss the preliminary design, components, and layout of the PV system. Please describe what stage of development your project is in (i.e., predevelopment, development, construction, existing array but cattle are not yet integrated, etc.).
- **Innovation:** Highlight any unique or innovative equipment, agricultural practices, grazing practices, control systems, system designs, or methods that will be implemented and how they will improve the project.
- **Installation Plan:** Detail the plan for installation of the PV system, including any considerations regarding the soil, cattle, and/or other factors.
- **Cattle Management and Grazing Plan:** Discuss your overall cattle management and grazing plan for this project, including an explanation of the frequency with which the cattle will interact with the solar system, how many cattle will interact, what portion of the solar system they will interact with (both in area and kW-dc), and the logic behind the plan.
- **Data Collection and Analysis Plan:** Briefly describe how your project will collect and share data on system performance, energy production, O&M procedures and events, cattle growth, cattle health, milk production (if applicable), and any other data points you propose to track.
- **Site Control:** If the site(s) is/are not currently owned or leased by a team member, provide a plan for obtaining control before Phase 2A is completed.
- **Site Description**: Briefly describe the grazing site, including the total acreage of the site and the estimated coverage area of PV system(s) in acres. Identify the type of ecological site (i.e., plant communities) on which cattle grazing will occur.

Category 3—Benefits, Impact, and Scalability

Describe the economic, environmental, and social benefits of the project

Suggested content team provides:

- **Plans for Outreach, Education, and Any Benefits Provided**: Briefly explain your plans, in whatever level of finalization they exist, to use this project to educate the public, share the results of this project, and/or provide any other specific benefits to any groups not directly involved in the project and the community where the project will be located.
- **Scalability:** Briefly explain how your project's design and approach may be scaled and replicated in other locations, showcasing its potential to benefit others and promote widespread adoption of agrivoltaics systems. Also explain how the project may provide information about barriers and challenges that inform future projects.

3.6.3 Submission Summary Slide (Will Be Made Public)

Make a public-facing, one-slide submission summary that introduces your team and your project. Teams may use the template[15] available on HeroX, but are not required to do so. Any text must be readable and should be in at least 14-point font.

3.6.4 Letters of Support (Required)

Letters of support are required from all team members who are not the lead. The letters of support should briefly describe the member's role in the project, what they will be contributing and how they plan to collaborate with other team members. Optional letters of support from outside of the team may include letters of support from other partners, stakeholders, and community members. These letters should detail their commitment to the project, specify their roles and contributions, and express their support for the initiative.

3.6.5 Supporting Documentation (Optional)

To support the narrative document (see Section 3.6.2), teams may upload a single PDF of additional supporting documentation (up to 15 pages), which could include items such as executive summaries or signature pages of relevant permits, site control documentation, feasibility studies, technical

[15] To assist Teams, the Prize Administrator is providing an elective template to illustrate the types of information needed to evaluate Teams. Teams are not required to use this template and may submit using any form or format of their choosing. However, all submissions should address the substantive measures outlined in the template and described in this Rules document.

specifications, environmental impact assessments, or other materials that support the viability and potential success of your project.

3.7 How We Determine and Award Winners

The Prize Administrator will screen all completed submissions and ensure that all competitors are eligible. Next, the Prize Administrator, in consultation with DOE, will assign subject matter expert reviewers who independently score the content of each submission. The reviewers will be composed of federal and/or external nonfederal subject matter experts and representatives with expertise in areas relevant to the competition. They will review the team's submission package according to the criteria below.

3.7.1 Scoring Criteria

The expert review team will consider the below scoring criteria in relation to the entirety of the Phase 1 submission package. In addition, reviewers will score an overall "reviewer recommendation," which has no direct corresponding submission requirement. Rather, it is an overall assessment of all materials submitted through HeroX. Reviewers will evaluate the submission by assigning a single score (0–6) for each section based on their overall agreement or disagreement with a series of statements.

0	1	2	3	4	5	6
Non-responsive	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

Scoring criteria is as follows:

Category 1—Organizations, Partnerships and Collaboration
A single score on a scale of 0–6 is provided, taking the following statements into consideration: • **Team:** The lead organization has compelling reasons for participating in the LASSO Prize and has demonstrated relevant experience, which makes them exceptionally well-suited to lead this agrivoltaics initiative. Their previous accomplishments in similar projects underscore their capability and readiness to succeed. • **Other Team Members:** The project includes a strong and diverse group of partners. The other team members bring complementary resources and expertise. As a group, the team is fully capable of designing and deploying a scalable cattle agrivoltaics system and collecting

data on said system for two years. Additionally, roles and responsibilities are clearly defined and agreed upon.

Category 2—Proposed Project Design

A single score on a scale of 0–6 is provided, taking the following statements into consideration:

- **Project Overview:** The project offers a well-conceived and practical approach for integrating PV with cattle grazing, demonstrating a balanced design that effectively optimizes both activities.
- **System Design, Installation Plan, and Innovation:** The project proposes system(s) totaling at least 250 kW-dc (larger systems are desirable, see Section 3.7.4). The technology and any innovations are described in detail and have strong potential to scale in the market. The installation plan is thorough and lays out any specific considerations for soil and cattle.
- **Cattle Management and Grazing Plan:** The cattle management and grazing plan is designed to thoroughly and effectively evaluate the viability, benefits, and impacts of co-location of cattle and PV.
- **Data Collection Plan:** The data collection plan is designed to effectively evaluate the viability, benefits, and impacts of the co-location of cattle and PV. It outlines robust methods for collecting and sharing data on (at a minimum) system performance, energy production, O&M procedures and events, cattle growth and health, and milk production (if applicable). The applicant specifies any additional metrics they plan to track and/or analysis they plan to perform.
- **Site Control:** If site(s) is/are not currently owned or leased by a team member, a plan to obtain site control by end of Phase 2A is clearly explained and plausible.

Category 3—Benefits, Impact, and Scalability

A single score on a scale of 0–6 is provided, taking the following statements into consideration: • **Plans for Outreach, Education, or Any Benefits Provided**: Submission demonstrates that the team has thought about how to maximize the benefits of this project for the public and puts forth compelling ideas to do so. • **Scalability:** The application presents a clear and feasible approach for scaling and replicating its design in other locations, highlighting its potential to benefit others, and promoting the widespread adoption of cattle agrivoltaics systems. The application is also clear about how challenges and barriers with the approach and design could be identified, solved, or shared to improve the public understanding of cattle agrivoltaics and inform future projects.
Reviewer Recommendation There is no direct corresponding submission requirement for this score. Rather, it is an overall assessment of all materials submitted though HeroX
A single score on a scale of 0 to 6 is provided, taking the following statement into consideration: • The team and plan should be strongly considered for a prize.

3.7.2 Reviewer Panel Scoring

The scoring of submissions will proceed as follows:

- Experts will review each submission individually and assess the team's response to each statement in the three areas described in Section 3.7.1.
- Reviewers will score each category, including the Reviewer Recommendation, with 0–6 points, depending on the degree to which the reviewer agrees that the submission reflects the statements for consideration.
- Each category score will be added together to generate a total score for the submission.
- The total scores from each reviewer will be averaged to produce a final score for the team. This score will inform the judge's decisions on prize awards.

Note: Expert reviewers also provide comments on the submissions they review. The Prize Administrator intends to provide comments to teams after the winners are announced. The comments are the opinions of the expert reviewers and do not represent the opinions of DOE.

3.7.3 Interviews

DOE may decide to interview some or all teams. The interviews, if requested, are required for the award. They would be held prior to the announcement of the winners and would serve to help clarify questions the reviewers may have.

3.7.4 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 (see Section A.13), including the overall size of the PV system (with larger systems being desirable), and the interview findings (if applicable).

In addition, systems over 5 MW-dc are also eligible to be considered for a bonus prize in Phase 2B. See Section 6.1 for more details.

3.7.5 Announcement

Approximately 30–60 days after the submission deadline, the Prize Administrator will publicly announce the winners, notify the competitors, and request the necessary information to distribute the prizes.

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.

4 Prize Rules: Standard Track Phase 2

4.1 Goal

Standard Track Phase 2 focuses on advancing the proposed projects from Phase 1 through implementation (Phase 2A) and construction (Phase 2B). In Phase 2A, teams will conduct thorough project due diligence, including completing detailed plans, establishing site control (if not yet done), securing necessary permits, and finalizing designs. Phase 2B will involve the construction and/or alteration of the agrivoltaics systems, the introduction of cattle, and the demonstration of the cattle agrivoltaics system's operation.

Phase 2 is subject to NEPA (42 U.S.C. § 4321, et seq.). NEPA requires federal agencies to assess the environmental impacts of their proposed actions prior to making decisions. Teams must comply with all NEPA requirements as described in Section 4.6.5.

Additionally, teams will prepare for Phase 3, which will include data collection over the course of two years and holding field days to showcase the project.

Below are the official rules for Phase 2A of the Standard Track. Rules for Phase 2B will be released ahead of the phase opening date. See Section 1.2 and Section 1.3 for more information.

4.2 Prizes

4.2.1 Phase 2A Prizes

Up to 7 teams will each win $225,000 in cash awards, for a total prize pool of up to $1,575,000 in cash awards.

Submissions will be accepted via three submission deadlines: November 27, 2025, 5 p.m. ET (6 months after Phase 2A opens); May 28, 2026, 5 p.m. ET (12 months after Phase 2A opens); and November 26, 2026, 5 p.m. ET (18 months after Phase 2A opens). If teams submit to the first deadline and are not selected for award, they may reapply to the second or third deadline for re-evaluation. If teams submit to the second deadline and are not selected for award, they may reapply to the third deadline for re-evaluation. Teams may submit up to three times total for consideration. Teams will be notified if all Phase 2A funds have been awarded before the second or third submission deadline.

During Phase 2A, teams are permitted to change their proposed Phase 1 site locations. No site changes will be allowed after Phase 2A.

A team must win Phase 2A to participate in Phase 2B.

4.3 How to Enter

Go to HeroX, click on the "Solve This Challenge" button, and follow the instructions for submitting all required materials before the submission deadline.

4.4 Important Dates

Refer to the timeline on HeroX and Section 1.3 for relevant dates and deadlines.

4.5 Prize Steps—Phase 2A

4.5.1 Phase 2A Prize Steps

1. **Submission**—Teams develop and submit comprehensive documentation for their agrivoltaics system design, system specifications and drawings, grazing management plans, permits and approvals, construction plans, NEPA compliance (see Section 4.6.5), and Phase 3 data collection strategies. Teams complete their submission packages and submit them online prior to the deadline.
2. **Evaluation**—The Prize Administrator screens submissions for eligibility and completion and assigns subject matter experts as reviewers to independently score the content of each submission. The reviewers evaluate the following criteria for each submission:
    - **Criteria 1 Project Viability**: A well-documented design, realistic timeline with milestones, plausible budget with secured financing, and robust risk management strategies.
    - **Criteria 2 Cattle Integration**: A grazing management plan that integrates with the PV system using sustainable practices and ensures animal health and safety with appropriate risk management strategies.
    - **Criteria 3 Readiness for Phase 3**: Clear data collection plans.
    - **Criteria 4 Financing:** A detailed and realistic preliminary budget, with a robust funding plan.

3. **Announcement**—After the winners are publicly announced, the Prize Administrator notifies them and requests the necessary information to distribute cash prizes.

4.6 What to Submit: Phase 2A

A complete submission package should include the following items:

- **Updated Team and Project information** (required; select elements will be made public)
- **System Details and Documentation** (required; will not be made public)
    - Must include 1) engineering designs and drawings, 2) proof of submission of an interconnection application, and 3) applicable land use permit or approval received from the authority having jurisdiction.
- **Narrative** (required; will not be made public)
- **Letters of Commitment and Support** (optional; will not be made public)
- **National Environmental Policy Act (NEPA) Determination Documentation** (required; made public as part of the NEPA determination process).

For Phase 2A, the following details provide guidance on what information to provide and how reviewers will evaluate and score your submission.

4.6.1 Updated Team and Project Information

List basic information about your submission directly in the HeroX submission form. Elements marked with an asterisk (*) will be made public. If your team has changed in any way since your Phase 1 submission, please include the new team members' information. Otherwise, you can submit the exact same material from Phase 1.

Team Information (to be submitted via HeroX submission form)

- Project title*
- Lead competitor name*
- Lead competitor type (cattle rancher/farmer, dairy farmer, landowner, solar developer, historically underserved producer group, product developer, commodity organization, other [please specify])
- Lead competitor address (street, city, state, and nine-digit ZIP code)

- Lead competitor contact information (email, phone number, and links to any professional online profiles)
- Lead competitor resume or curriculum vitae (CV)
- From each other team member, please provide:
    - Name
    - Competitor type
    - Contact information (email, phone number, and links to any professional online profiles)
    - Resume or curriculum vitae (CV)
    - Brief description of role/contribution to the project.
- **Document Upload**: An updated spreadsheet detailing each team member's role in the proposed project (e.g., a RASIC chart).

Project Information (to be submitted via HeroX submission form)

- Project site location (county/municipality, state, ZIP code)
- A high-level overview (250 words maximum) of the changes in the project since Phase 1 of the prize
- Executive summary (250 word maximum, entered directly into HeroX submission form) consisting of an overview of the project concept and its potential impact.

4.6.2 System Details and Documentation

Teams will provide the following information about their project directly through the HeroX website:

Project Information:

- Project name
- Total PV system capacity (kW-dc)
    - Note: Systems must have a minimum capacity of 250 kW-dc. If cattle only interact with a portion of the system, that portion must have a minimum capacity of 250 kW-dc. Larger systems are desirable; see Section 4.7.4 for more information.
- Total acreage of grazing site

- Estimated coverage area of PV system (or systems, if there are multiple on the site) in acres
- The total modeled energy production of the PV system in kilowatt-hours (kWh) over the time periods of each subphase in Phase 3
- The utility in whose service territory the project is located
- Site control status
- Interconnection process status (select one):
    - Applied for interconnection
    - Completed feasibility study
    - Completed system impact study
    - Completed facilities study
    - Received interconnection approval or agreement
    - Fully executed interconnection approval or agreement.
- Permitting process status, including an identification of the applicable authorities having jurisdiction (e.g., state department of environment, county board, etc.). Note that projects are expected to receive all applicable federal, state, and local permits and approvals from the appropriate authority having jurisdiction before proceeding to construction.
- Construction process status, including:
    - Signed agreements with Engineering, Procurement, and Construction (EPC) company
    - Project contractors have received Notice to Proceed.

Financial and Operational Information:

- The total estimated cost of the project
- How much money (USD$) has already been spent or committed for this project.

Documentation Upload:

Teams must upload documentation related to the design, development, and financing of their project including, but not limited to:

- Required documentation (please upload documents separately):
    - **Document Upload:** Engineering designs and drawings

- **Document Upload:** Proof of submission of an interconnection application
- **Document Upload:** Applicable land use permit or approval (e.g., Conditional Use Permit, Special Use Permit, etc.) received from the authority having jurisdiction
- **Document Upload:** Budget spreadsheet and/or pro forma.

- **Recommended documentation (please combine all documents into a single PDF and include a table of contents)**
  - Proof of site control, consisting of either a fully executed contractual agreement or a deed, title, or other evidence of land ownership
    - Executed contractual agreement(s) minimum requirements: A signed contractual agreement that details the parties to the agreement, provides a description of the property (including address and which project it refers to), describes the solar system, and lays out the general terms of the agreement, including any payments.
    - Deed, title, or other evidence of land ownership.
  - Results of interconnection studies
  - Interconnection approval/agreement
  - Proof of Notice to Proceed.

4.6.3 Narrative

Submissions must address each of the following four categories. The content bullets are only suggestions to guide your responses. Responses to each of the four categories do not have a word limit; however, **the aggregate response must not exceed 6,000 words**, not including captions, figures/graphs, and/or references. A word count must be included at the end of your submission. You may also include **up to five supporting images, figures, charts, or graphs**. The reviewers will score the questions based on the content you have provided.

Narrative

Maximum 6,000 words and five supporting images or figures (PDF)

Category 1—Agrivoltaics Design, Changes, and Construction Timeline

Provide detailed information about your agrivoltaics design, including any modifications or improvements made since Phase 1. Describe the current design specifications and explain the reasons for any changes. Outline your construction timeline, including key milestones and expected completion dates. Highlight how you plan to ensure the timely and successful construction of your cattle agrivoltaics system.

Suggested content team provides:

- **Design Specifications:** Describe the current design of the PV system, including the type (manufacturer and model) and arrangement of solar panels, mounting structures, inverter (manufacturer and model), and any other critical components. State the overall percent of domestic content for the PV system.[16] Specify any custom hardware, specialized software, or other nonstandard aspects of the PV system design and control systems.
- **Safety Measures**: Describe what design measures you are taking to prevent structural, electrical, and/or other safety hazards for cattle and humans.
- **Modifications and Improvements:** Detail any changes or improvements made to the design since Phase 1, explaining the reasons.
- **Construction Timeline:** Provide a construction schedule for major site activities such as site preparation and civil engineering; installation of racking system; installation of panels; and installation of inverters, conduit, and wiring. The schedule should include estimates for major milestones such as Notice to Proceed, commencement of construction, substantial completion, and commercial operation. The schedule may be provided in the format of a Gantt chart or equivalent project management chart.
- **Risk Management:** Explain how you will manage potential risks and ensure the timely and successful completion of the construction process.
- **Site Description**: Provide a description of the layout of the site. Identify the type of ecological site (i.e., plant communities) on which cattle grazing will occur.

[16] Teams may choose to use the New Elective Safe Harbor method of domestic content calculation as provided by the Internal Revenue Service and described here: https://www.energy.gov/eere/solar/federal-solar-tax-credits-businesses#:~:text=What%20are%20the%20bonus%20credits%3F.

- **O&M**: Describe the planned O&M activities, including frequency, who will conduct these activities, and how the activities will accommodate the cattle.

Category 2—Cattle Integration

Describe the approach to integrating cattle with the PV system. Describe plans to manage grazing patterns, ensure animal health and safety, and outline risk mitigation strategies.

Suggested content the team provides:

- **Details on Cattle Grazing Operations:** Explain the basic details of your cattle grazing operation, including the average herd size you expect to graze this site, the breed(s) of cattle that will be in the herd, the animal age ranges, whether the animals are beef or dairy cattle, and the total area of the grazing site (including land not occupied by the PV system).
- **Grazing Management Plan**: Describe your grazing management plan, including an explanation of the frequency, timing, and duration with which the cattle will interact with the solar system, the stocking rate, the size and capacity of the portion of the PV system that the cattle will interact with (both in area and kW-dc), and the logic behind the plan. Explain whether this will be the only site the cattle will graze or if they will be moved during the year, and the anticipated schedule and methods for collecting and recording cattle-related information during Phase 3. Also include a discussion of how the proposed grazing plan will maintain and/or improve the plant and soil health components. Describe any input from an outside specialist (e.g., Extension agents, Federal agency personnel), if applicable.
- **Animal Health and Safety:** Explain the measures you will take to maintain the health and safety of the cattle while they are interacting with the solar infrastructure, and how those differ from measures taken in the absence of solar infrastructure.
- **Risk Mitigation Strategies:** Discuss any anticipated challenges related to cattle integration and how you plan to address and overcome these challenges.

Category 3—Plans for Phase 3 Data Collection and Sharing

Discuss your plans for data collection in Phase 3, focusing on system performance, energy production, O&M, cattle growth and health, and milk production (if applicable). Explain the methods and tools you will use for data gathering and analysis.

Suggested content team provides:

- **Data Collection Methods**: Outline the methods and tools you will use to collect data on system performance, energy production,[17] O&M procedures and events, cattle growth and health, milk production (if applicable), and overall findings and costs. Detail any supplementary data points[18] you plan to track, such as detailed time-series energy production data, data on soil quality and plant health, hydrologic function and water management, community perceptions, or other pieces of information the team considers meaningful, and how you will measure and share those pieces of information.

Category 4—Funding

Provide a summary that ties the budget and funding sources together, demonstrating that your project is financially viable. Highlight how the funding will be allocated across different phases of the project and how it will support the achievement of your project goals.

This section should offer a clear and comprehensive picture of your financial plan, showcasing your ability to manage project costs effectively and secure the necessary funding to ensure successful implementation.

Suggested content team provides:

- **Preliminary Budget:** Provide an overview of your project's budget and how you arrived at your estimates, including estimated costs for the following:
    - **Design and Planning:** Costs for system design, engineering, and site assessments
    - **Equipment and Materials:** Costs for solar panels, mounting structures, inverters, fencing, watering systems and any other necessary equipment
    - **Installation and Construction:** Costs for labor and materials to install the solar array and set up the grazing infrastructure
    - **Permits and Approvals:** Fees for obtaining necessary permits

[17] Aggregate total energy production from the entire system in kWh over the entire time period of each subphase in Phase 3 (6-month periods).
[18] These supplementary datasets can contribute to teams' submissions to the LASSO Data Bounty Bonus Prize (see Section 1.2).

    - **O&M:** Ongoing costs for running and maintaining the system
    - **Cattle management:** Cost of managing cattle, clarifying added costs due to agrivoltaics system
    - **Data Collection and Analysis:** Costs for executing planned data collection.
- **Funding Sources:** Describe where the funding for your project will come from:
    - **Internal Funding:** Funds from your team members
    - **Grants and Awards:** Any grants or prizes received or applied for, including the LASSO Prize
    - **Investments:** Funds from investors
    - **In-Kind Contributions:** Noncash support like donated equipment or volunteer work
    - **Other Sources:** Any other sources of funding.
- **Funding Status:** Describe the status of raising capital for the project. If not complete, please detail the plan to obtain remaining required capital. Additionally, clarify how any cost overruns will be dealt with.
- **Business Agreements**: Describe the preliminary (or final, if appropriate) arrangements between team members and any other parties with financial interest in the project (e.g., land leasing/use arrangements and cost deviations from the norm, fees/payments for grazing access/vegetation management, plans for sharing ongoing costs or revenue, etc.).

4.6.4 Letters of Support (Optional)

Include any new letters of support from key partners, stakeholders, or community members. These letters should detail their commitment to the project, specify their roles and contributions, and express their support for the initiative. If there are any new team members, a letter of commitment from each new member is required.

4.6.5 National Environmental Policy Act Determination Documentation

To be eligible for Phase 2A award, teams must provide:

1. A copy of their submitted EQ-1 form[19]
2. A final NEPA determination number
3. A summary of the NEPA determination received for their project (250-word maximum)

To obtain a NEPA determination, teams must submit their planned project via an EQ-120 Form to DOE on the Project Management Center website21 at least 60 days prior to the Phase 2A submission deadline to allow adequate time for review and processing. After submitting the EQ-1, teams must email the Prize Administrator at LASSOPrize@nrel.gov with a copy of the submitted EQ-1 form.

A step-by-step guide on how to submit an EQ-1 form can be found at: https://www.eere-pmc.energy.gov/RefDocs/EQ1SubmissionGuide.pdf.

4.7 Scoring and How Award Winners Are Determined—Phase 2A

The Prize Administrator screens all completed submissions and ensures that all competitors are eligible. Next, the Prize Administrator, in consultation with DOE, assigns subject matter expert reviewers who independently score the content of each submission. The reviewers will be composed of federal and external nonfederal subject matter experts and representatives with expertise in areas relevant to the prize. They will review the team's submission package according to the criteria in Section 4.7.1 below.

4.7.1 Scoring Criteria

The expert review team will consider the following scoring criteria in relation to the entirety of the Phase 2A submission package: Project Viability, Cattle Integration, Readiness for Phase 3, and Financing. Reviewers will evaluate the submission by assigning a single score (0–6) for each scored submission section based on their overall agreement or disagreement with a series of statements.

0	1	2	3	4	5	6
Non-responsive	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

[20] A copy of the EQ-1form can be found at: https://www.eere-pmc.energy.gov/PMCRecipient/EQ_Sample.docx
[21] https://www.eere-pmc.energy.gov/NEPA.aspx

Project Viability

The project has a well-documented design, realistic timeline with milestones, plausible budgets with secured financing, and robust risk management strategies.

A single score on a scale of 0–6 is provided, taking the following statements into consideration:

- The project demonstrates a clear, reasonable, and well-documented design, with detailed specifications and justified modifications that enhance the feasibility and effectiveness of the cattle agrivoltaics system.
- The construction timeline is comprehensive, realistic, and includes well-defined milestones, demonstrating a strong plan for obtaining all required permits and timely completion of construction.
- Construction budgets and financing plan are plausible.
- Risk management strategies are robust, effectively addressing potential challenges and ensuring the project's successful implementation.

Cattle Integration

The grazing management plan integrates with the PV system using sustainable practices and ensures animal health and safety with appropriate risk management strategies.

A single score on a scale of 0–6 is provided, taking the following statements into consideration:

- The grazing management plan is well-developed, ensuring optimal integration with the PV system and using sustainable agricultural practices. The plan is responsive to the ecological site type of the location, takes the details of the cattle grazing operation into account, and is likely to maintain or improve soil quality and plant health.
- Measures for maintaining animal health and safety are comprehensive and clearly defined, ensuring the well-being of the cattle alongside the solar infrastructure.
- Potential challenges related to cattle integration are thoughtfully anticipated, with practical solutions provided to address and mitigate these issues.

Readiness for Phase 3

The project is well-prepared for Phase 3, with clear data collection plans.

A single score on a scale of 0–6 is provided, taking the following statement into consideration: • The project demonstrates thorough preparation for Phase 3 data collection, including clear plans for collecting required data.
Financing The preliminary budget is detailed and realistic, with a robust funding plan. The financial summary demonstrates the project's viability and the team's capability to manage costs and secure necessary funding.
A single score on a scale of 0–6 is provided, taking the following statements into consideration: • **Preliminary Budget:** The preliminary budget is comprehensive, detailed, and provides clear and realistic estimates for each cost category. • **Funding Sources:** The funding plan is defined and reasonable. The plan showcases the team's proactive efforts to secure necessary financial support and their capability to sustain the project throughout its life cycle. • **Financial Viability and Allocation:** The summary effectively ties the budget and funding sources together, demonstrating the project's financial viability. The overall financial plan for the project showcases the team's ability to manage project costs effectively and secure the necessary funding for successful implementation.

4.7.2 Reviewer Panel Scoring

The scoring of submissions will proceed as follows:

- Experts will review each submission individually and assess the team's submission materials response to each scoring criteria statement as described in Section 4.7.1.
- Reviewers will score each section 0–6, depending on the degree to which the reviewer agrees that the submission reflects the statements for consideration.
- Each section score will be added together to generate a total score for the submission.
- The total scores from each reviewer will be averaged to produce a final score for the team. This score will inform the judge's decisions on prize awards.

4.7.3 Interviews

DOE may decide to interview teams. The interviews, if requested, are required for award and would be held prior to the announcement of the winners and would serve to help clarify questions the reviewers may have.

4.7.4 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, interviews (if applicable), and the application of program policy factors (such as geographic diversity and size of PV system). See Section A.13 for more information.

4.7.5 Announcement

Approximately 30–60 days after the Phase 2A submission deadlines, the Prize Administrator will publicly announce the winners, notify the teams, and request the necessary information to distribute the prizes.

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

5 Prize Rules: Operating Projects Track Phase 1

5.1 Goal

The Operating Projects Track of the LASSO Prize aims to incentivize the owners, operators, and managers of cattle agrivoltaics projects that are completed and operational with cattle grazing at the time of the Phase 1 application deadline to share information, data, and experiences with DOE and the agrivoltaics community.

This track consists of two Phases: Phase 1, in which teams will provide project and site information and documentation; and Phase 2, in which teams will provide data and information over a 2-year period.

Below are the official rules for Phase 1 of the Operating Projects Track. Rules for Phase 2 will be released ahead of the phase opening date. See Section 1.2 and Section 1.3 for more information.

Please note that no site changes will be allowed after the Phase 1 award.

5.2 Prizes

Phase 1 of the Operating Projects Track offers up to 3 cash prizes of $50,000 each. The total prize pool is up to $150,000 in cash awards.

Teams must win Phase 1 to participate in Phase 2.

5.3 How to Enter

Go to HeroX, click on the “Solve This Challenge” button, and follow the instructions for registering and submitting all required materials before the submission deadline.

5.4 Important Dates

Refer to the timeline on HeroX and Section 1.3 for relevant dates and deadlines.

5.5 Operating Projects Track Phase 1 Prize Process

This phase consists of the following steps:

1. **Submission**—Teams develop and submit comprehensive project packages with all information specified below. Teams complete their submission packages and submit them online before the submission deadline.
2. **Evaluation**—The Prize Administrator screens submissions for eligibility and completion and assigns subject matter expert reviewers to independently score the content of each submission. The reviewers evaluate the following criteria for each submission:

    - **Category 1—Organizations, Partnerships, and Collaboration:** Evaluates the team's mission, history, expertise, and roles, along with partner involvement and contributions. Teams must list members and partners and their roles, as well as provide descriptions of the lead competitor and the other team members.
        - Note that each team may be made up of multiple competitors. The team will put forward one of the competitors to be the lead competitor. The lead competitor will be the main point of contact for the team and in charge of submissions and distribution of winnings.
    - **Category 2—Agrivoltaics Design Information for Existing Project:** Collects information on the agrivoltaics design and details of system design and funding sources.
    - **Category 3—Cattle Integration:** Collects information on the integration of cattle with the PV system. Teams should describe grazing operations, health and safety measures, and solutions to integration challenges.
    - **Category 4—Plans for Data Collection:** Discusses data collection plans for system performance, energy production,[22] O&M procedures and events, cattle growth and health, and milk production (if applicable). Teams may also collect and share additional data of interest, including detailed time-series energy production data, data on soil quality and plant health, hydrologic function and water management, community perceptions, or other pieces of information the team considers meaningful. These supplementary datasets can contribute to teams' submissions to the Data Bounty Bonus Prize (see Section 1.2). Teams must outline data collection methods.
    - **Category 5 —Benefits, Impact, and Scalability:** Assesses the project's economic, environmental, and social benefits, as well as the project's scalability.

[22] Aggregate total energy production from the entire system in kWh over the entire time period of each subphase in Phase 3 (6-month periods).

3. **Announcement**—After the winners are publicly announced, the Prize Administrator notifies all teams and requests the necessary information to distribute cash prizes.

5.6 What to Submit

A complete submission package should include the following items:

- **Team and Project Information** (required; select elements will be made public)
- **Narrative** (required; will not be made public)
- **Summary PowerPoint slide** (required; will be made public; teams may use the template[23] provided through HeroX, but are not required to do so)
- **Letters of Support** (required; will not be made public).

5.6.1 Team and Project Information

List basic information about your submission directly through the HeroX submission form. Elements marked with an asterisk (*) will be made public.

Team Information (to be submitted via HeroX submission form):

- Project title*
- Lead competitor name*
- Lead competitor type (cattle rancher/farmer, dairy farmer, landowner, solar developer, historically underserved producer group, product developer, commodity organization, other [please specify])
- Lead competitor address (street, city, state, and nine-digit ZIP code)
- Lead competitor contact information (email, phone number, and links to any professional online profiles)
- Lead competitor resume or curriculum vitae (CV).
- From each other team member, please provide:

[23] To assist Teams, the Prize Administrator is providing an elective template to illustrate the types of information needed to evaluate Teams. Teams are not required to use this template and may submit using any form or format of their choosing. However, all submissions should address the substantive measures outlined in the template and described in this Rules document.

- Name
- Organization type
- Contact information (email, phone number, and links to any professional online profiles)
- Brief description of role/contribution to the project.
- Resume or CV

- **Document Upload**: A spreadsheet detailing each team member's role in the proposed project (e.g., a RASIC chart).

Project Information (to be submitted via HeroX submission form):

- Project name
- Project site location (county/municipality, state, ZIP code)
- Executive summary (250 word maximum) consisting of an overview of the project concept and its current and potential future impact
- PV system capacity (kW-dc).
  - Note: Systems must have a minimum capacity of 250 kW-dc. If cattle only interact with a portion of the system, that portion must have a minimum capacity of 250 kW-dc. Larger systems are desirable; see Section 5.7.4 for more information.
- Total acreage of grazing site
- Coverage area of PV system(s) in acres
- The total modeled energy production of the PV system in kilowatt-hours (kWh) over the time periods of each subphase in Phase 2 (6-month periods)
- The utility in whose service territory the project is located
- The total cost of the PV system (from design and planning through energizing the system, including fees for permits and approvals, NOT including costs for cattle or cattle-specific infrastructure)
- Estimated or documented additional cost of the PV system due to integrating cattle, (from design and planning through energizing the system, including fees for permits and approvals, NOT including costs for cattle or cattle-specific infrastructure such as equipment to provide

drinking water or temporary cattle fencing used internally to the site) relative to the cost of a PV system of the same size and in the same location not designed to integrate cattle

- Costs associated with procuring cattle or contracting a grazer/rancher, and for cattle-specific infrastructure such as equipment to provide drinking water or temporary cattle fencing used within the site

Documentation Upload:

Teams must upload documentation related to their project including:

- **Required documentation (please upload documents separately):**
  - **Document Upload:** Engineering designs and drawings, or as-builts
  - **Document Upload:** Fully executed interconnection agreement
  - **Document Upload:** Applicable land use permit or approval (e.g., Conditional Use Permit, Special Use Permit, etc.) received from the authority having jurisdiction
  - **Document Upload:** Photos of the array with cattle.

5.6.2 Narrative

Every submission must address each of the following 5 categories. The content bullets are only suggestions to guide your responses. Responses to each of the 5 categories do not have a word limit; however, **the aggregate response must not exceed 7,000 words**, not including captions, figures/graphs, and/or references. A word count must be included at the end of your submission. You may also include **up to fifteen supporting photos, images, figures, or graphs**. The reviewers will score the questions based on the content you have provided.

Narrative Maximum 7,000 words and fifteen supporting images or figures (PDF)
Category 1—Organizations, Partnerships, and Collaboration List partners, their roles, and their contributions
Suggested content team provides: • **Lead Competitor:** Briefly describe the lead competitor, including mission/goals, history, and areas of expertise. Explain the lead competitor's role in the project to date and future role during Phase 2.

- **Other Team Members:** Briefly describe the other competitors on the team, including mission/goals, history, and areas of expertise. Explain each competitor's role in the project to date, and what they will contribute to the data collection and outreach efforts.

Category 2—Design of Existing Project

Provide detailed information about the design of your existing operational cattle agrivoltaics project.

Suggested content team provides:

- **Ownership Structure:** Explain the agrivoltaics system's land, PV array, and cattle ownership structure.
- **Design Specifications:** Describe the design of the PV system, including the type and arrangement of solar panels (manufacturer and model), mounting structures, inverter (manufacturer and model), and any other critical components. State the percent of domestic content[24] for the PV system. Specify any custom hardware, specialized software, or other nonstandard aspects of the PV system design and control systems. Describe what design measures you took to prevent structural, electrical, or other safety hazards for cattle and humans.
- **Site Description:** Briefly describe the project site, including total acreage of the grazing area, coverage area of the PV system(s) in acres, the layout of the site, and site's ecological site type (i.e., plant communities).

Category 3—Cattle Integration

Describe the ongoing approach to integrating cattle with the PV system. Describe how grazing patterns and animal health and safety are managed at the existing project, and outline challenges that have arisen and how you have addressed them.

Suggested content team provides:

- **Details on Cattle Grazing Operations:** Explain basic details about your ongoing cattle grazing operation, including the average herd size that grazes this site, the breed(s) of cattle that are in the herd, the age ranges of the cattle, and the total area of the grazing site (including land not also occupied by the PV system).

[24] Teams may choose to use the New Elective Safe Harbor method of domestic content calculation as provided by the Internal Revenue Service and described here: https://www.energy.gov/eere/solar/federal-solar-tax-credits-businesses#:~:text=What%20are%20the%20bonus%20credits%3F.

- **Grazing Management Plan:** Describe your grazing management plan, including an explanation of the frequency, timing, and duration with which the cattle interact with the solar system, the stocking rate, the size and capacity of the portion of the PV system that the cattle interact with (both in area and kW-dc), and the logic behind the plan. Explain whether this is the only site the cattle graze or if they are moved during the year, and the anticipated schedule and methods for collecting and recording cattle-related information during Phase 2. Describe any input received from an outside specialist (e.g., Extension agents, Federal agency personnel), if applicable.
-
- **Animal Health and Safety:** Explain the measures you take to maintain the health and safety of the cattle while they are interacting with the solar infrastructure, and how those differ from measures taken in the absence of solar infrastructure. Note any health or safety events (if applicable) or any observed benefits (if applicable).

Challenges and Solutions: Discuss any challenges related to cattle integration and how you have or plan to address and overcome these challenges.

Category 4—Plans for Data Collection

Discuss your plans for data collection, focusing on system performance, energy production, O&M procedures and events, cattle growth and health, and milk production (if applicable).

Suggested content team provides:

- **Data Collection Methods**: Outline the methods and tools you will use to collect data on system performance, energy production, O&M procedures and events, findings and costs, cattle growth and health, and milk production (if applicable). Detail any supplementary data points you plan to track, such as detailed time-series energy production data, data on soil quality and plant health, hydrologic function and water management, community perceptions, or other pieces of information the team considers meaningful, and how you will measure and share those pieces of information.[25]

Category 5—Benefits, Impact, and Scalability

[25] Teams may collect and share additional data points of interest, including detailed time-series energy production data, data on soil quality, water management, community views, or other pieces of information the team considers meaningful. These supplementary datasets can contribute to teams' submissions to the Data Bounty Bonus Prize (see Section 1.2).

Economic, environmental, and social benefits of the project.
Suggested content team provides: • **Plans for Outreach, Education, or Any Benefits Provided**: Briefly explain your plans to use this project to educate the public, to share the results of this project, and/or to provide any other specific benefits to any groups not directly involved in the project and the community where the project will be located. Alternatively, explain how you have already met these stated goals. • **Scalability:** Briefly explain how your project's design and approach may be scaled and replicated in other locations, showcasing its potential to benefit the broader community and promote widespread adoption of cattle agrivoltaics systems.
Reviewer Recommendation
• There is no direct corresponding submission requirement for this score. Rather, it is an overall assessment of all materials submitted in HeroX.

5.6.3 Submission Summary Slide (Will Be Made Public)

Make a public-facing, one-slide submission summary that introduces your team, your mission, and your project. Teams may use the template[26] available on HeroX, but are not required to do so. Any text must be readable and should be in at least 14-point font.

5.6.4 Letters of Support (Required)

Letters of support are required from all team members who are not the lead. The letters of support should briefly describe the team member's role in the project, how they have been and plan to continue collaborating with other team members, and their support for the project. Optional letters of support from outside of the team may include letters from other partners, stakeholders, and community members. These letters should detail their commitment to the project, specify their roles and contributions, and express their support for the initiative.

[26] To assist teams, the Prize Administrator is providing an elective template to illustrate the types of information needed to evaluate teams. Teams are not required to use this template and may submit using any form or format of their choosing. However, all submissions should address the substantive measures outlined in the template and described in this Rules document.

5.7 How Award Winners are Determined

The Prize Administrator will screen all completed submissions and ensures that all competitors are eligible. Next, the Prize Administrator, in consultation with DOE, will assign subject matter expert reviewers who independently score the content of each submission. The reviewers will be composed of federal and external nonfederal subject matter experts and representatives with expertise in areas relevant to the prize. They will review the team's submission package according to the criteria above.

5.7.1 Scoring Criteria

The expert review team will consider the scoring criteria below in relation to the entirety of the Phase 1 submission package. In addition, reviewers will score an overall "reviewer recommendation," which has no direct corresponding submission requirement. Rather, it is an overall assessment of all materials submitted through HeroX. Reviewers will evaluate the submission by assigning a single score (0–6) for each section based on their overall agreement or disagreement with a series of statements.

0	1	2	3	4	5	6
Non-responsive	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

Scoring criteria is as follows:

Category 1—Organizations, Partnerships, and Collaboration
A single score on a scale of 0–6 is provided, taking the following statements into consideration: • The lead organization has compelling reasons to participate in the LASSO Prize and has demonstrated relevant experience, which makes them exceptionally well-suited to lead this project. • The project includes a strong and diverse group of team members, each of which bring complementary resources and expertise. Roles and responsibilities are clearly defined and agreed upon.
Category 2—Design of Existing Project
A single score on a scale of 0–6 is provided, taking the following statements into consideration:

- The project demonstrates a clear, reasonable, and well-documented agrivoltaics design, with detailed specifications and a satisfactory explanation of modifications from standard designs.
- The project ownership structure is clearly explained.

Category 3—Cattle Integration

A single score on a scale of 0–6 is provided, taking the following statements into consideration:

- The grazing management plan is well-developed, ensuring optimal integration with the PV system and using sustainable agricultural practices. The plan is responsive to the ecological site type of the location, takes the details of the cattle grazing operation into account, and is likely to maintain or improve soil quality and plant health.
- Measures for maintaining animal health and safety are comprehensive and clearly defined, ensuring the well-being of the cattle alongside the solar infrastructure.
- Challenges related to cattle integration have been addressed.

Category 4—Plans for Data Collection

A single score on a scale of 0–6 is provided, taking the following statements into consideration:

- The project demonstrates thorough preparation for Phase 2 data collection, including clear plans for collecting relevant data.
- The overall readiness of the project for Phase 2 is evident, with all necessary elements in place.

Category 5—Benefits, Impact, and Scalability

A single score on a scale of 0–6 is provided, taking the following statements into consideration:

- Submission demonstrates that the team can maximize the benefits of this project for the public.
- The project presents a clear and feasible approach for scaling and replicating its design in other locations, highlighting its potential to promote the widespread adoption of cattle agrivoltaics systems.

Reviewer Recommendation
A single score between 0-6 is provided, taking the following statements into consideration: • The team and plan should be strongly considered for a prize.

5.7.2 Reviewer Panel Scoring

The scoring of submissions will proceed as follows:

- Experts will review each submission individually and assess the team's response to each statement in the five criteria areas described in Section 5.6.2.
- Reviewers will score each section 0–6, depending on the degree to which the reviewer agrees that the submission reflects the statements for consideration.
- Each section score will be added together to generate a total score for the submission.
- The total scores from each reviewer will be averaged to produce a final score for the team. This score will inform the judge's decisions on prize awards.

Note: Expert reviewers also provide comments on the submissions they review. The Prize Administrator intends to provide comments to teams after the winners are announced. The comments are the opinions of the expert reviewers and do not represent the opinions of DOE.

5.7.3 Interviews

DOE may decide to interview teams. The interviews, if requested, are required for award, would be held prior to the announcement of the winners, and would serve to help clarify questions the reviewers may have.

5.7.4 Final Determination

DOE will designate a federal employee as the judge before the final determination of the winners. Final determination of the winners by the judge will take into account the reviewers' feedback and scores, interviews (if applicable), and the application of program policy factors (such as geographic diversity and size of PV system). See Section A.13 for more information. Systems over 5 MW-dc are also automatically eligible for a bonus prize. See Section 6.1 for more details.

5.7.5 Announcement

Approximately 30–60 days after the submission deadline, the Prize Administrator will publicly announce the winners, notify the winners, and request the necessary information to distribute the prizes.

5.8 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.

6 Bonus Prizes

Below are the official rules for the Largest PV System Bonus Prize. Rules for the LASSO Data Bounty Bonus Prize will be released on the Operating Projects Track Phase 2 phase opening date. See Section 1.2 and Section 1.3 for more information.

6.1 What to Submit: Largest Photovoltaic System Bonus Prize

The Largest PV System Bonus Prize will be awarded to the Standard Track Phase 2B submission with the largest DC-rated PV system over 5 MW-dc. The prize is $100,000. No additional submission materials are needed for this evaluation. All eligible teams will automatically be considered for the bonus prize. Only the capacity of the PV systems that cattle interact with will be counted toward the system size in determining the winner of this Bonus Prize (i.e., if a team's project includes a 6 MW-dc PV system, but cattle only graze under and around a 5 MW-dc portion of the system, only that 5 MW-dc will be considered toward the bonus prize).

The Solar Energy Technologies Office aims to build a robust clean energy manufacturing sector and supply chain in the United States that produces cost-competitive clean energy products. Therefore, it encourages LASSO competitors participating in the Largest PV System Bonus Prize to build systems with domestic content.

6.1.1 How We Determine Winners and Scoring Criteria

The winner of the Largest PV System Bonus Prize will be selected based on the largest DC-rated PV system over 5 MW-dc from eligible submissions for Standard Track Phase 2B. In the event of a tie, the prize will be split evenly among the winners.

Appendix 1: Additional Terms and Conditions

A.1 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 5 p.m. ET on prize deadline date, before the prize's phase submission period closes. Late submissions or any other form of submission may be rejected.
- 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. Teams 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 (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 teams an opportunity to fix non-substantive 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 team members before distributing any prizes. Receiving a prize payment is contingent upon fulfilling all requirements contained herein. The Prize Administrator will notify winning teams using provided email contact information for the lead individual or entity ("competitor") that was responsible for the submission. Each team 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 team will be disqualified from the competition and receive no prize funds if: (i) the person/entity does not respond to notifications; (ii) the person/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/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 lead 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 Competitors 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 Treatment of Submission Materials

The elements of the submission that are designated public will become publicly available as part of this prize. Therefore, these elements must not include trade secrets or business-sensitive, proprietary, or otherwise confidential information.

If it is necessary to share trade secrets or business-sensitive, proprietary, or otherwise confidential information, it should only be done in an element that is NOT designated as public. Any 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 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.

DOE, the Prize Administrator, and any other third-party supporting DOE in the contest assume no liability for the public disclosure of any information in the elements designated public and for any unmarked information any element NOT designated as public.

Furthermore, by making a submission and consenting to the rules of the contest, the teams and competitors are granting to DOE, the Prize Administrator, and any other third parties supporting DOE in the contest, a license to display publicly and use the elements of the submission that are designated as public and any unmarked information in the elements of the submission that are NOT designated as public for government purposes, including posting or linking elements on websites or publicizing the submissions and competitors in the media and other announcements. Teams and competitors are granting to DOE, the Prize Administrator, and other third parties a limited license to use or disclose any properly marked information for evaluation purposes only.

A.5 Representation and Warranties

By entering, teams and competitors represent and warrant that:

1. The team's entire submission is an original work by the team members and the team 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 or disclosed by the team in the submission, and (ii) the team acquired the necessary rights to use and to authorize others, including DOE, to use the submission, as specified throughout the rules.
2. To the best of the team's knowledge, the use of the submission in the prize, including any use by DOE or the Prize Administrator, 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 team or a team member to work on the submission or who appear in the submission in any manner have:
    a. Given their express written consent, that is satisfactory to the Prize Administrator, 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 a competitor's child, the team must have the permission of the minor's parent or legal guardian), that is satisfactory to the Prize Administrator, and the team may be asked by the Prize Administrator to provide permission in writing
    c. Not been and are not currently under any contract or agreement that results in any ongoing obligations resulting from the use, exhibition, or other exploitation of the submission, including but not limited to union or guild agreements.

4. 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'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.

A.9 Liability

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

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

A.10 Records Retention and Freedom of Information Act

All materials submitted to DOE as part of a submission become DOE records and are subject to the Freedom of Information Act. Where necessary, materials should be marked as noted in Section A.4. Such information will be withheld from public disclosure to the extent permitted by law. 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.

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 failure, 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 teams that are likely to achieve the goals of the program. If, in DOE's

determination, no teams are likely to achieve the goals of the program, DOE will select no teams to be winners and will award no prize money.

DOE may conduct a risk review, using government resources, of the team 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

Although 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. The Prize Administrator deems certain factors not necessarily addressed in the evaluation criteria evaluated by independent expert reviewers to be worthy of consideration. 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:

- The size of the PV array(s), with larger being desirable.
- The degree to which the cattle interact with the PV system, with more interaction being desirable.
- Geographic diversity and potential economic impact of projects.
- Whether the use of additional DOE funds and provided resources is nonduplicative 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 teams.
- 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 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.

- The degree to which the submission furthers SETO's goals.

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 assess the environmental impacts of their proposed actions prior to making decisions. For additional background on NEPA, please see DOE's NEPA website at http://nepa.energy.gov/.

Although NEPA compliance is a federal agency responsibility and the ultimate decisions remain with the federal agency, all competitors in the LASSO 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. Competitors may be asked to provide DOE with further information such that DOE can conduct a meaningful evaluation of the potential environmental impacts.

A.15 Definitions

Prize Administrator means both the Alliance for Sustainable Energy operating in its capacity under the Management and Operating Contract for NREL and DOE's Solar Energy Technologies Office. When the Prize Administrator is referenced in this document, it refers to staff from both the Alliance for Sustainable Energy and DOE Solar Energy Technologies Office staff. Ultimate decision-making authority regarding prize matters rests with the DOE Director of the Solar Energy Technologies Office

A.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 noncash prizes be returned to the government.

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