EDUCATOR GUIDE DUAL-USE DESIGN CHALLENGE

Thank you for supporting your students in the Dual-Use Design Challenge! This guide provides key information on how to facilitate student participation, protect minors' privacy, and explore opportunities to engage with the Solar Farm Summit challenge—to be tailored for grade level.

Supporting Your Students

Check out the <u>Resources</u> we've collated for you!

Facilitation: Encourage students to explore the intersection of agriculture and solar energy, guiding them to consider agricultural, energy, environmental, economic, and social factors in their solutions.

Resources: Provide access to supplies, case studies and research on farming, solar energy, and agrivoltaics. Consider inviting local farmers, energy professionals, or sustainability advocates to speak with students.

Collaboration: Students can work individually or in teams. Encourage interdisciplinary approaches, integrating agriculture, business, engineering, education, and environmental science perspectives.

Feedback: Help students refine their solutions by asking questions, providing constructive feedback and encouraging peer review.

Attending the Conference

Conference Overview: The Solar Farm Summit is a leading event showcasing innovative solar-agriculture solutions, bringing together farmers, industry leaders, researchers, policymakers, and communities.

Student Participation: Educators/Parents can bring students to showcase their work in the exhibition, attend sessions, and engage a diverse audience.

Travel & Funding: Schools or organizations may inquire about funding/sponsorships to help with travel expenses.

Standards Alignment



Submission & Minors' Privacy

Submission Process: Educators or guardians should submit entries on behalf of students under 18 to ensure compliance with privacy guidelines.

Photos & Media: If students include images of themselves or their work, a signed parental consent form must accompany the submission.

Personal Information: Do not include personal identifiers (e.g., last names, addresses) in student submissions.

Additional Information

Recognition & Awards: Outstanding student submissions may be awarded prizes and showcased at the conference and featured online.

Educator Networking: Join a community of educators integrating sustainable agriculture and solar energy topics into their curriculum.

Questions? Contact us at <u>katie.meyer@solarfarmsummit.com</u> for additional support.

<u>K-12 design challenges</u> are developed to correlate with the following NGSS Performance Expectations: <u>K-2-ETS1-2</u>, <u>3-5-ETS1-2</u>, <u>MS-ETS1-1</u>, and <u>HS-ETS1-3</u>.

<u>Post-secondary education design challenge and prompts</u> are developed to complement <u>Agriculture</u>, <u>Food and Natural Resources</u> Career Pathways, which can also be applied to the 9-12 grade challenge.

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NGSS Standards Alignment

K-12 design challenges correlate with the following NGSS Performance Expectations:

<u>K-2-ETS1-2</u> — Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

<u>3-5-ETS1-2</u> — Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

<u>MS-ETS1-1</u> — Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

HS-ETS1-3 — Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

AFNR Career Pathways

<u>Post-secondary education design challenge and prompts</u> are developed to complement Agriculture, Food and Natural Resources (<u>AFNR</u>) Career Pathways. They can also be applied to the 6-8 and 9-12 grade challenges.

- o Agribusiness Systems (ABS.01, ABS.04, ABS.05)
- o Animal Systems (AS.01, AS.02, AS.05, AS.08)
- o Education, Communication, and Leadership (ECL.01, ECL.02, ECL.03, ECL.04)
- o Environmental Sustainability (ESS.01, ESS.02, ESS.03, ESS.04, ESS.05)
- Food Products and Processing Systems (FPP.02, FPP.03)
- Natural Resource Systems (NRS.01)
- o Plant Systems (PS.01)
- o Power, Structural, and Technical Systems (PST.01)

A Collaboration Between



The <u>Solar Farm Summit</u> is America's agrivoltaics conference and farming + solar exhibition, bringing together experts, farmers, researchers, and innovators to explore the future of agriculture and energy. Finalists in the Dual-Use Design Challenge will have the opportunity to showcase their projects at the 2025 Solar Farm Summit, win cash prizes, and receive public recognition as well as direct introduction to industry leaders and professionals on the cutting edge of agrivoltaics during the industry's most collaborative and constructive event.



The <u>InSPIRE</u> project (Innovative Solar Practices Integrated with Rural Economies and Ecosystems) is the nation's longest running and largest agrivoltaics research initiative. InSPIRE explores how solar energy can be co-developed with agriculture and native landscapes, conducting field research, providing data-driven insights, and convening experts across disciplines. By advancing our understanding of agrivoltaics and other dual-use solutions, InSPIRE supports the scaling of solar projects that benefit both landowners and ecosystems.

If you would like to join us at the **2025 Solar Farm Summit in Chicago, IL August 4-7**, please visit <u>https://solarfarmsummit.com</u> or reach out to <u>admin@solarfarmsummit.com</u>.