EnergyTech UP

OTT Office of Technology Transitions

AMERICAN MADE
U.S. DEPARTMENT OF ENERGY

Informational Webinar

October 24, 2024

Presented by:

National Renewable Energy Laboratory

EnergyTech UP

OTT Office of Technology Transitions

AMERICAN MADE
U.S. DEPARTMENT OF ENERGY

Webinar Will Begin Shortly

THE WHITE HOUSE

APRIL 25, 2024

White House Office of Science and Technology Policy Announces Actions to Spur the Commercialization Climate & Clean Energy Technologies

OSTP › NEWS & UPDATES › PRESS RELEASES

Yesterday, leadership at the White House Office of Science and Technology Policy, the White House National Economic Council, and the White House Climate Policy Office convened senior representatives from the Department of Energy (DOE), U.S. National Science Foundation (NSF), and venture capital organizations, universities, and law firms to announce a set of actions to spur innovation and accelerate progress in tackling the climate crisis. These actions are part the Biden-Harris Administration's commitment to unleashing a clean energy boom through the President's Investing in America agenda and Earth Week announcements in support of building a stronger, healthier future for all.

- DOE's Office of Technology Transitions (OTT) announced three winners and five runners-up ↗ in the inaugural EnergyTech University Prize (EnergyTech UP) Faculty Track as well as three National Winners and 13 Bonus Prize Winners ↗ from the Student Track. Over

"I **learned a ton about technologies** that I either had never even heard of or knew little about."

-Student Participant

"The ability to **talk to industry mentors and go through the experience of crafting a business plan** was extremely valuable."

-Student Participant

"**Thinking in the business perspective as well as the engineering mindset** will greatly benefit my future endeavors."

-Student Participant

EnergyTech UP

OTT Office of Technology Transitions

AMERICAN MADE
U.S. DEPARTMENT OF ENERGY

Informational Webinar

October 24, 2024

Presented by:

National Renewable Energy Laboratory

Housekeeping

Two Options for Audio (select audio mode):

1. Listen through your computer:
   Click the ‘up arrow’ next to the “mute” button in the bottom left corner.
   Under “Select a Speaker,” click “Same as System.”
2. Listen by telephone:
   Click the ‘up arrow’ next to the “mute” button in the bottom left corner.
   Click “Switch to Phone Audio.”

Panelists – reminder to mute your audio device when not presenting.

To Ask a Question:

Select the ‘Q&A’ button at the bottom of your screen and type in your question.

Having Trouble with the Webinar?

A video/audio recording of this webinar and the slide deck will be made available on HeroX.

Agenda

1. Introduction to EnergyTech UP
2. Welcome from the Office of Technology Transitions
3. Perspectives from Alumni
4. About the Student Track
5. Bonus Prizes Available
6. About the Faculty Track
7. Highlights from the 2024 Competition
8. About the Pitch Event
9. Spreading the Word
10. Closing Remarks, Questions, & Answers

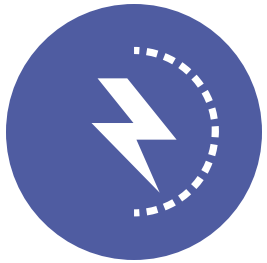
EnergyTech UP

OTT Office of Technology Transitions

AMERICAN MADE
U.S. DEPARTMENT OF ENERGY

Energy Enables our World

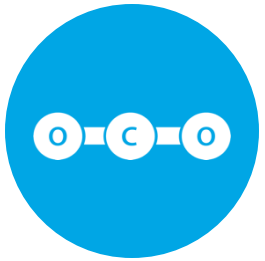
Innovation is Needed



Growing New Generation and Integration

Creativity Around Time-and-Place of Energy

Transportation and Logistics Modernization



Innovations in Material Science

Cybersecurity and Finance Challenges

EnergyTech University Prize

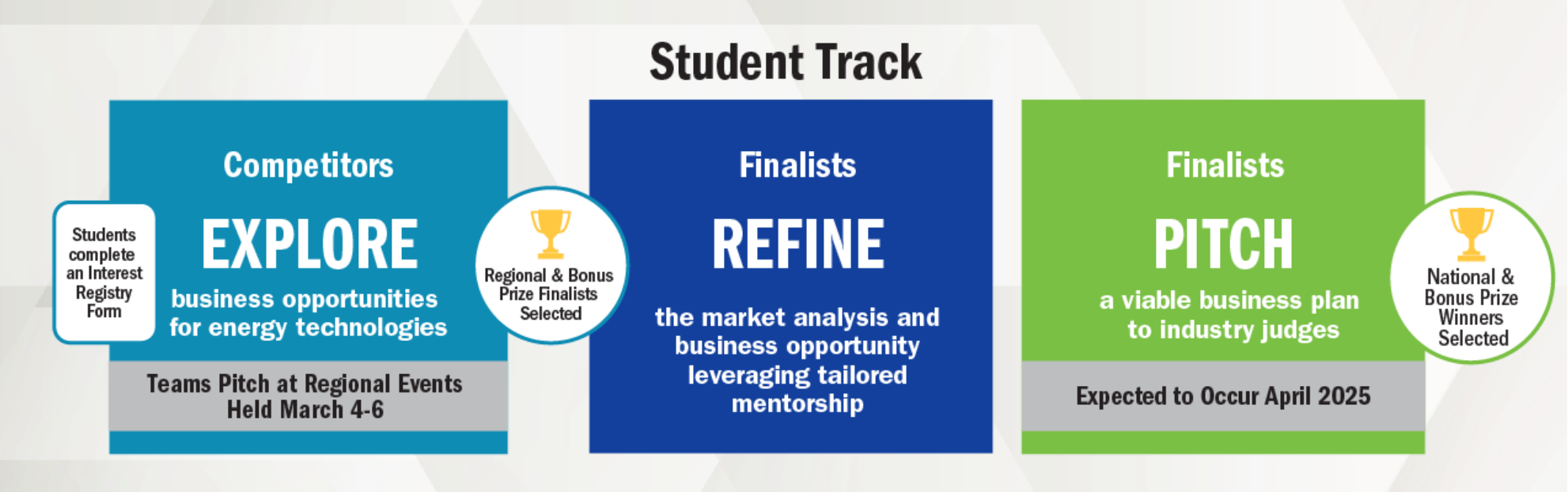
Tasking student teams to craft and present a business plan using National Laboratory-developed or other high-potential energy technologies.

Tasking faculty to incorporate or expand energy technology commercialization and entrepreneurship topics into their institution's educational activities.

Goals of the Program

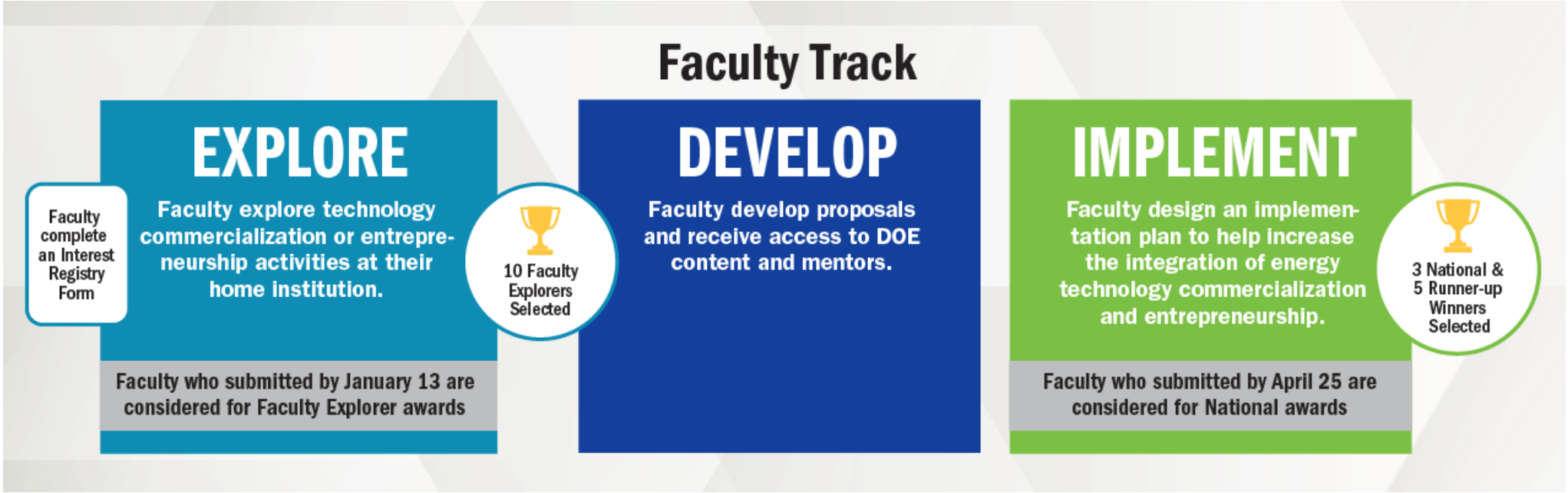
- Build engagement between colleges, universities, the Department of Energy, national labs, and industry.
- Inspire others on the possibilities for leveraging energy technologies.
- Increase commercialization of energy technologies and help to launch careers.
- Support and improve energy technology education at institutions across the U.S.

Student Track



- Registration closes on February 3, 2025.
- Regional Explore Events occur on March 4, 5, and 6, 2025.
- Regional and Bonus Prize Finalists each receive $5,000.
- National Pitch Event Expected to Occur in late April 2025.
- At the National Event, prizes are $50,000 for 1st place, $35,000 for 2nd Place, $25,000 for 3rd place, and $20,000 for each of 10 technology Bonus Prizes, the undergraduate-only Bonus Prize, and the National Lab IP Licensing Bonus Prize.

Faculty Track



- Faculty who submit by January 13 are eligible for Faculty Explorer awards.
- Any faculty can submit to the Implement Phase, even if they did not submit to the Explore Phase.
- $5,000 to up to 10 Different of the Faculty Explorer Entries.
- National Prizes of $25,000 for first place, $15,000 for second place, and $10,000 for third place. Five additional entries will be awarded $2,000 each as runners-up.
- A letter will also be sent to each winner's institution on behalf of DOE announcing the prize award.

Low Barrier to Entry

- Students can register with just a 200-word summary.
- Students present virtually to judges about 4 weeks later.
- Students do not need to have an established startup.
- Students do not need to control the IP to present.
- Students are evaluated based on the quality of the plan.
- Student finalists win $5,000 and are invited to the national competition, where over $400,000 in prizes are provided.
- Faculty who submit information about themselves and their interests by January 13 are eligible to be selected as one of 10 Faculty Explorers and receive funding.
- Any faculty can submit an implementation plan by April 25 to be eligible for a share of $60,000 in funding.

Students and faculty from any institution, anywhere in the U.S., are welcome and encouraged to compete.

Welcome!

Carolina Villacis

Commercialization Program Manager

Office of Technology Transitions

Office of Technology Transitions

The **Mission of the Office of Technology Transitions** (OTT) is to expand the public impact of the department's research, development, demonstration, and deployment (RDD&D) portfolio to advance the economic, energy and national security interests of the nation. OTT is the front door to U.S. Department of Energy's (DOE) products, facilities and expertise. The office integrates "market pull" into its planning to ensure the greatest return on investment from DOE's RDD&D activities to the taxpayer.

EPIC Round 3
Energy Program for Innovation Clusters
Powered by the Office of Technology Transitions

ENERGY I-CORPS

OTT Office of Technology Transitions

Adoption Readiness Levels (ARL): A Complement to TRL

Practices to Accelerate the Commercialization of Technologies (PACT)
Office of Technology Transitions

LAB PARTNERING SERVICE

INNOVATION X LAB®

Pathways To Commercial Liftoff

Technology Commercialization Internship | OTT Office of Technology Transitions

Technology Commercialization Fund | OTT Office of Technology Transitions

DOE Emerging Tech Studio
powered by FEDTECH

EnergyTech UP | OTT Office of Technology Transitions | AMERICAN MADE U.S. DEPARTMENT OF ENERGY

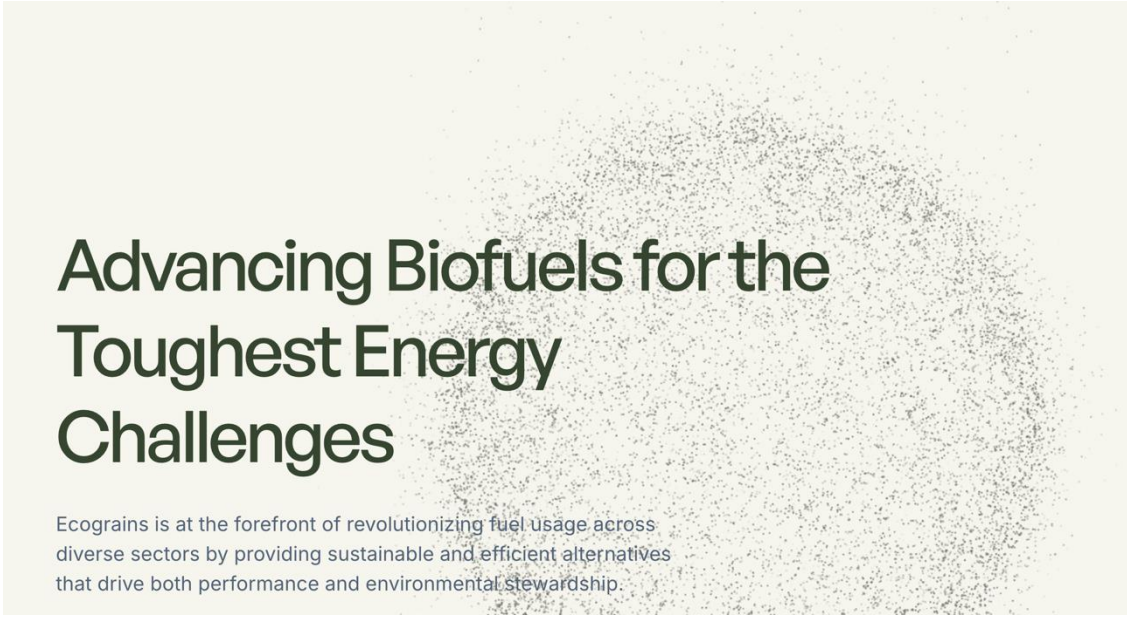
EnergyTech UP

It was so much fun and
really just once again, it is a
once in a lifetime
competition that comes with
a very explicit goal of educating students

Perspectives from a former competitor

EcoGrains:

- National Lab IP Licensing: Team EcoGrains from *the University of Notre Dame*
- Entry: EcoGrains: 'Sustainable Bioenergy Solutions'
- Janet Namutebi
- Philip Rugamba
- Neil Kane



Student Track Details

Up to 225 teams invited to present live across 15 regional Explore Events

2024 Explore Events

- ~15 regions across the U.S.
- ~15 teams per region.
- ~3-5 industry judges per region.
- 3 Explore Event dates:
  - East – March 4 from ~1–5 p.m. ET
  - Central – March 5 from ~1–5 p.m. CT
  - West – March 6 from ~1–5 p.m. PT

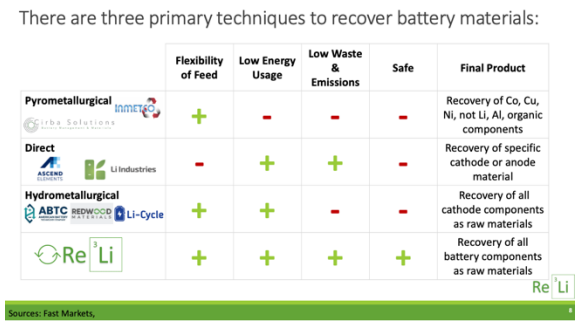
2025 Regional Conveners

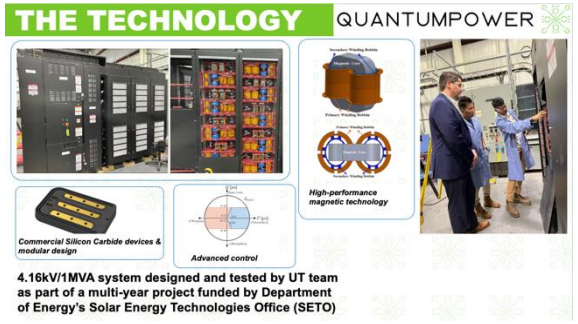
Regional Convener Name	Regional Explore Event
Rice Alliance for Technology and Entrepreneurship	Central – March 5
Evergreen Climate Innovations	
Grid Catalyst	
University of Kentucky	
Circular Venture Lab	
University of South Florida	East – March 4
Wilton E. Scott Institute for Energy Innovation at Carnegie Mellon University	
Cleantech Open Northeast, NECEC	
Research Triangle Cleantech Cluster	
Urban Future Lab, New York University	
California Convener TBD	West – March 6
University of Arizona Center for Innovation	
Clean Energy Institute - University of Washington	
Colorado School of Mines, McNeil Center for Entrepreneurship & Innovation	
Cold Climate Housing Research Center, NREL, Alaska	

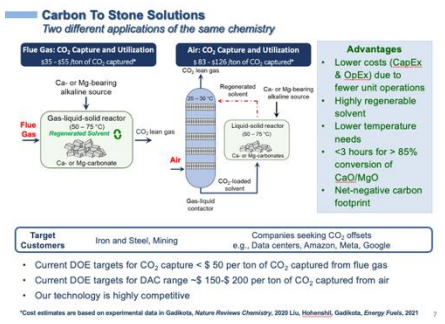
All energy technologies are welcome.

Technology Areas of Interest

- Student submissions must focus on technologies that produce and/or store energy, improve the efficiency of energy consumption or energy transmission, or increase the security and reliability of energy systems.
- Several DOE technology offices are offering technology bonus prizes for the best student entries in each technology office's respective fields.







This is not a startup competition.

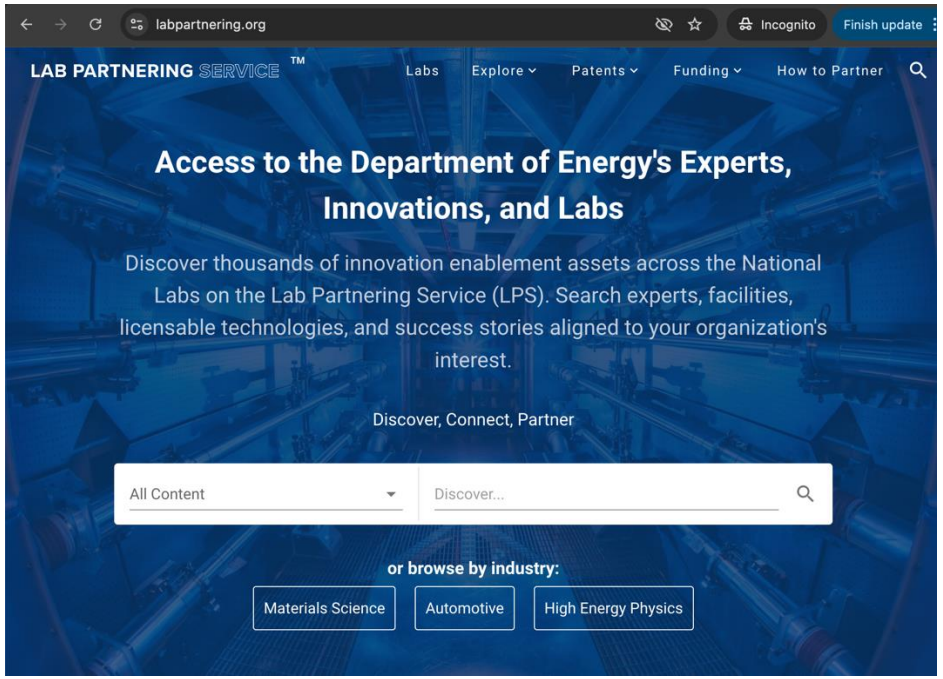
You don’t need to own or have a license to the IP.

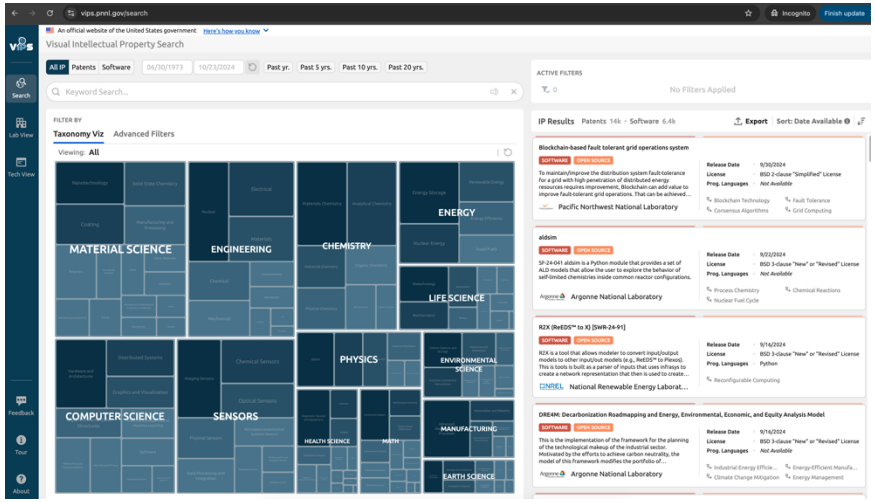
You don’t need to have a business formed.

“It was a very cool opportunity to **develop a business model around a technology that was brand new to me.**”

IP Ownership or License Not Required

- Technology you or your team members developed.
- Your institution's technologies.
- National lab-developed technologies via the Lab Partnering Service.
- Emerging technologies of interest to you and your team.





Lab Partnering Service

- Nearly 2,000 technologies available for license from DOE's national labs are summarized.
- About 100 energy technologies highlighted for consideration by EnergyTech UP competitors.
- Teams are not restricted to the technologies highlighted.

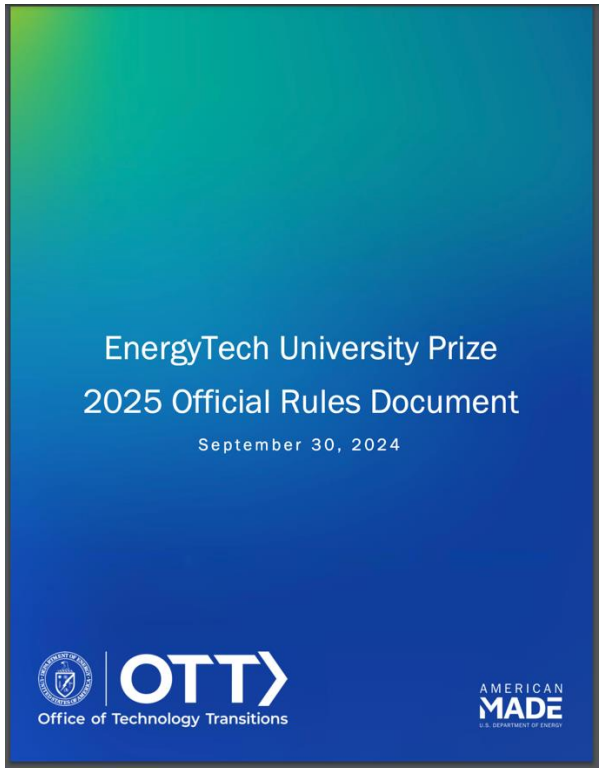
EnergyTech UP | OTT Office of Technology Transitions | AMERICAN MADE U.S. DEPARTMENT OF ENERGY

The Rules indicate:

Topics of interest
What you'll do
How winners are determined

Competition Rules

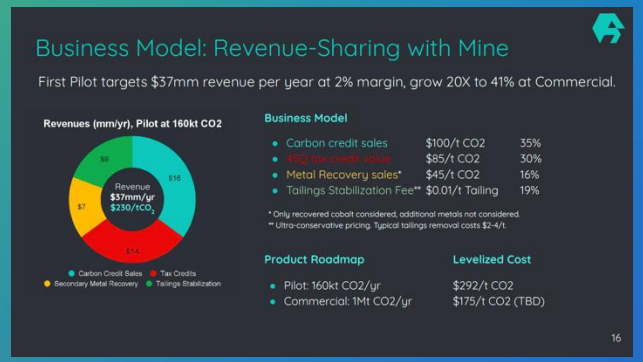
- Released Sept. 30.
- Available on HeroX under “Resources”.
- Define eligibility, technologies areas of interest, prizes to win, how to enter, what to submit, and how winners are determined.

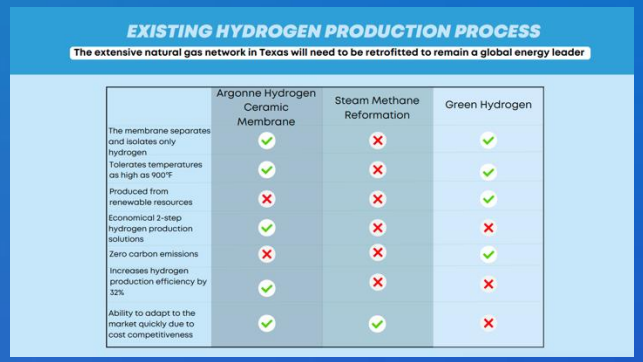


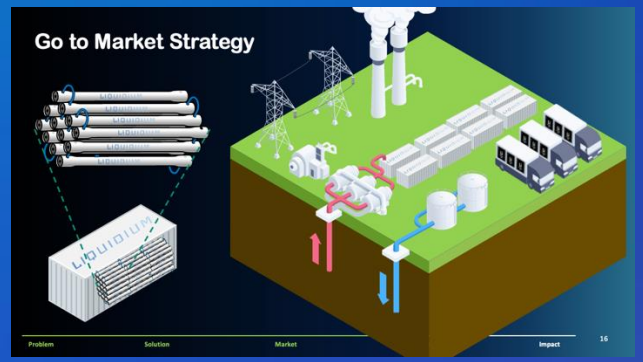
Contents

Contents 2
1 Welcome to the EnergyTech University Prize 4
2 About the Office of Technology Transitions 6
3 Summary of Important Dates 7
3.1 Student Track 7
3.2 Faculty Track 7
4 Technology Areas of Interest 8
5 Diversity, Equity, and Inclusion 9
6 Other Relevant Programs and Opportunities 10
6.1 Lab Partnering Service 10
6.2 Energy I-Corps 10
6.3 Adoption Readiness Level Framework and the Commercial Adoption Readiness Assessment Tool 10
6.4 DOE’s Pathways to Commercial Liftoff Reports 11
6.5 American-Made Network 11
6.6 Technology Commercialization Fund 11
7 How To Enter 12
8 Student Track 13
8.1 Interest Registry (Optional) 13
8.2 Explore Phase 13
8.3 Refine Phase 14
8.4 Pitch Phase 14
8.5 Student Eligibility 15
8.6 Prizes To Win 16
8.7 What Students Submit 17
8.8 How Explore Phase Student Teams Are Determined 18
8.9 How Explore Phase Student Finalists Are Determined 19
8.10 How Bonus Prize Finalists and Winners Are Determined 22
8.11 How Pitch Phase Student Winners Are Determined 25
9 Faculty Track 29
9.1 Interest Registry (Optional) 30
9.2 Explore Phase 30
9.3 Develop Phase 31
9.4 Implementation Phase 31
9.5 Faculty Eligibility 31
9.6 Prizes To Win 33
9.7 What Faculty Submit 33
9.8 How Faculty Explorers Are Determined 34
9.9 How Implementation Phase Faculty Winners Are Determined 36
Appendix A – Additional Terms and Conditions 40

Winners are determined based on the strength of the plan presented.







How Explore Phase Regional Finalists are Determined

- Regional pitches – virtual.
  - 5-minute pitches, 3-minute Q&A.
  - Initial idea and opportunity.
  - 1 regional finalist from each region.
- Finalists win $5,000 each and are invited to the Refine and Pitch Phases of the competition.

Table 3. Scoring Scale

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

Table 4. Explore Phase Content and Criteria

1. Technology Identification	
Suggested questions to address in content: • What is the energy technology to be leveraged?	**Criteria:** • The team deeply understands their technology of choice and has explained it clearly.
2. Market Assessment	
Suggested question(s) to address in content: • Who will buy the product or service, and why do they need it? • Who is currently serving this market and how? • What unmet market need will this technology help to fill?	**Criteria:** • The team understands the relevant market, potential competitors, and customers for their identified technology, including what pain points this technology might solve for the customer.
3. Economic Feasibility Analysis	
Suggested questions to address in content: • What might customers be willing to pay for this product or service? • How much might it cost the business to produce this product or service?	**Criteria:** • The team's analysis is credible and has identified what the customer is willing to pay for the product, thoroughly justifying their product/service's cost of production and understanding its implication on their profit margins.
4. Potential Impact	
Suggested questions to address in content: • Who will benefit should this business succeed? • What role will this business play in the energy transition?	**Criteria:** • The proposed business includes thoughtful and specific activities that advance energy and environmental justice and equity and inclusion, including for members of disadvantaged communities[6] (e.g., those that are affected by persistent poverty or job loss due to the energy transition), and the team has outlined a realistic vision for the role they see this business playing in the energy transition.
5. Overall Business Plan	
Suggested questions to address in content: • How is success defined? • What people and resources are needed to put this plan into action?	**Criteria:** • The team's definition of success is reasonable, and the business, if implemented as proposed, would be likely to achieve the specified metrics of success, including personnel, equipment or other assets, and partnerships necessary.

How Explore Phase Bonus Prize Finalists are Determined

- Program office staff watch recorded regional pitches.
  - Up to 1 finalist identified for each Bonus Prize.
- Finalists win $5,000 each and are invited to the Refine and Pitch Phases of the competition.

Table 6. Bonus Prize Challenge and Criteria

OTT National Lab IP Licensing Bonus Prize	
Prize description:	**Criteria:**
Leverage the OTT's LPS to identify a national lab-developed technology available for licensing, and propose an innovative business model to commercialize the technology.	The entry demonstrates a clear understanding of the technology listed on OTT's LPS as well as its market potential and presents an innovative business model to significantly increase its adoption.
OTT Undergraduate-Only Team Bonus Prize	
Prize description:	**Criteria:**
As a team made up of only undergraduate students, including those pursuing an associate degree or a bachelor's degree, demonstrates and proposes an innovative business model for an emerging energy technology.	The eligible team presents an entry that demonstrates a clear understanding of the technology and its market potential and presents an innovative business model to significantly increase its adoption.
Geothermal Technologies Office Technology Bonus Prize	
Prize description:	**Criteria:**
Develop innovative business models to increase the adoption of geothermal	The entry demonstrates a clear understanding of the technology and market potential for

	key exploration and operational challenges while engaging a diverse and inclusive cohort.
Office of Nuclear Energy Technology Bonus Prize	
Prize description:	**Criteria:**
Develop innovative business models to accelerate the development and deployment of advanced technologies supporting advanced reactors and fuel cycle technologies.	The entry demonstrates an understanding of the chosen technology and its market potential, and the path to improved technology and/or enhanced adoption is well-articulated and reasonable.
Office of Electricity Grid-Enhancing Technologies (GETs) Technology Bonus Prize	
Prize description:	**Criteria:**
Develop innovative business models to of GETs to benefit the	The presentation emphasizes a clear understanding of GETs and the market potential for GETs to be implemented by various utility entities in a way that decreases congestion and reduces electricity costs.
ctricity Long-Duration Energy Storage (LDES) Technology Bonus Prize	
iescription:	**Criteria:**
isiness models to nology solution, explain ase, and address enable greater adoption wer system. Innovative ises are encouraged.	The presentation outlines a clear understanding of LDES technologies and the LDES market space, explores barriers to greater LDES adoption, and proposes an innovative business plan to accelerate LDES deployment for a defined, innovative use case.
Solar Energy Technologies Office Technology Bonus Prize	
iescription:	**Criteria:**
isiness models to nce, affordability, f solar technologies in ckle emerging challenges	The entry demonstrates a clear understanding of the technology and its market potential for optimizing the performance and/or reducing the costs associated with components, installation, and operation of solar energy systems and presents an innovative business model to significantly increase the technology's adoption.
	the technology and the market potential for hydrogen technologies and presents an innovative business model to significantly increase the technology's adoption.
/ Supply Chains Technology Bonus Prize	
	Criteria:
nts at small- and medium-sized ers.	The entry effectively demonstrates a new approach that showcases and solves a key barrier to the implementation of industrial decarbonization improvements for small- and medium-sized manufacturers.
Water Power Technologies Office Technology Bonus Prize	
Prize description:	**Criteria:**
ovative business models for a power or marine technology of your tackles emerging challenges in the r industry and aims to improve the e, affordability, reliability, and value of hydropower or marine energy in the United States.	The entry demonstrates an understanding of the chosen technology and its market potential, and the path to improving the technology and/or increasing its adoption is well-articulated and reasonable. The team demonstrates a commitment to diversity, equity, inclusion, and justice.

How Bonus Prizes Are Scored

Expert reviewers selected by the prize administrator and OTT will individually evaluate all team pitches based on the pitch content and the written submission given in **Table 6**. Judges will meet after the Pitch Phase presentations to discuss the teams with high average scores, update their scores to reflect all the information available, and determine the winner(s).

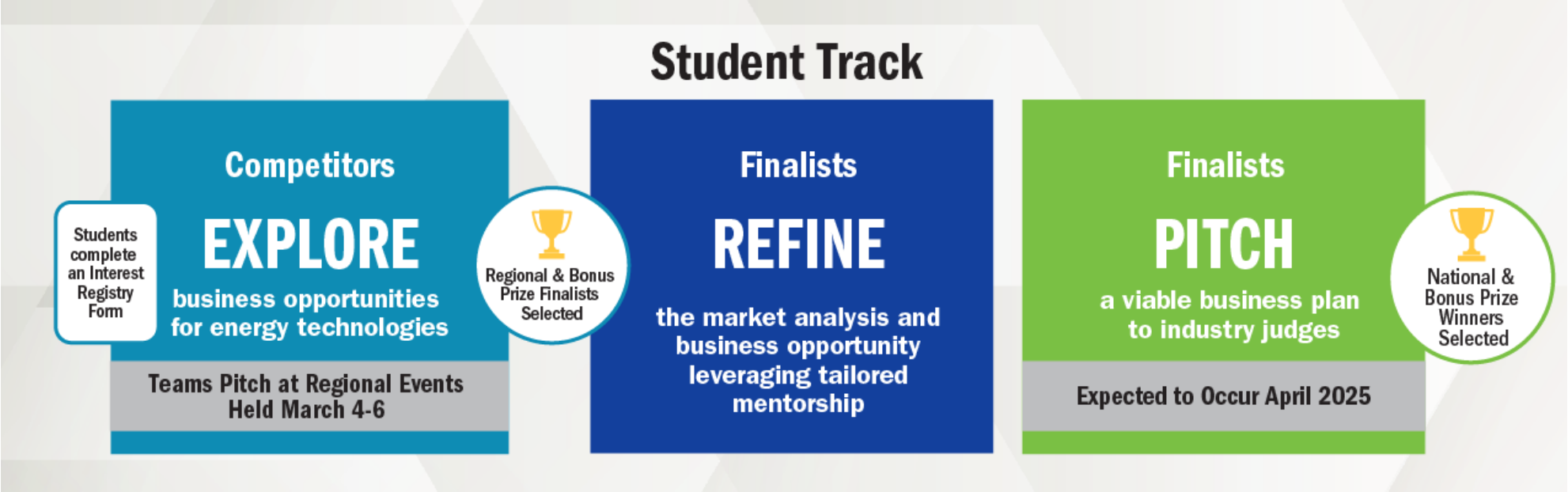
Table 5. Scoring Scale

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

Up to 27 different teams can win a share of $485,000 in prizes.

Prizes are awarded for your work in this competition and come with no IP or ownership transfer, no further obligations, and no reporting requirements.

Student Track



- Registration closes on February 3, 2025.
- Regional Explore Events occur on March 4, 5, and 6, 2025.
- Regional and Bonus Prize Finalists each receive $5,000
- National Pitch Event Expected to Occur in late April 2025
- At the National Event, prizes are $50,000 for 1st place, $35,000 for 2nd Place, $25,000 for 3rd place, and $20,000 for each of 10 technology Bonus Prizes, the undergraduate-only Bonus Prize, and the National Lab IP Licensing Bonus Prize.

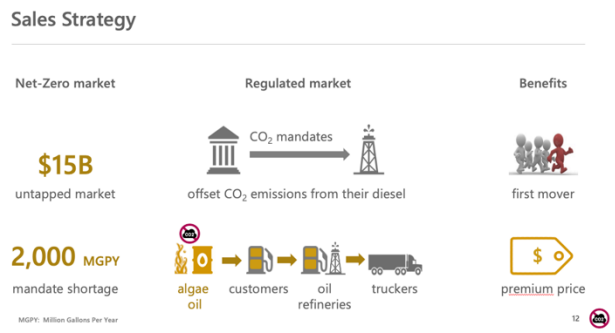
Prizes Available to Student Teams

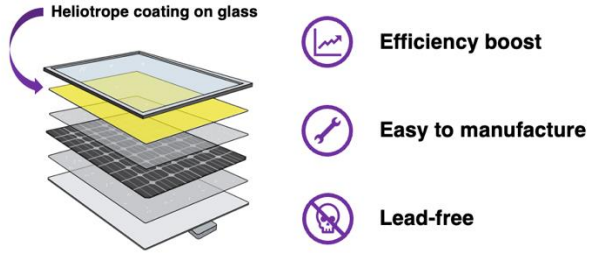
Category	Amount	Number Awarded	Total
Regional Finalist (up to 15)	$5,000	15	$75,000
Bonus Prize Finalists (up to 1 per prize)	$5,000 each	Up to 12	$60,000
All Finalists Eligible for Any of the Prizes Below			
1st place	$50,000	1	$50,000
2nd place	$35,000	1	$35,000
3rd place	$25,000	1	$25,000
Technology Bonus Prizes	$20,000 each	Up to 10	$200,000
National Lab IP Licensing Bonus Prize	$20,000	Up to 1	$20,000
Undergraduate-Only Team Bonus Prize	$20,000	Up to 1	$20,000

Students from anywhere in the U.S., pursuing any degree at any level, are welcome and invited to compete.

Eligibility

- A team composed of two or more enrolled students.
  - Accredited U.S.-based collegiate institution.
    - 2-year, 4-year, and/or graduate institutions invited.
  - Any level student (undergraduate or graduate level).
  - Team captain must be a U.S. citizen or permanent resident.
  - Only students can present to judges.
- Following the close of registration on February 10, teams will be assigned to a regional convener's Explore Event to enable an equitable competition.
- Business plans that have not previously received notable funding may receive preference by the prize administrator. Competition is seeking new ideas and plans.





Student Track Bonus Prizes

$325,000 in Bonus Prizes available to all teams in addition to Explore Phase prizes and national Pitch Phase prizes.

Bonus Prizes

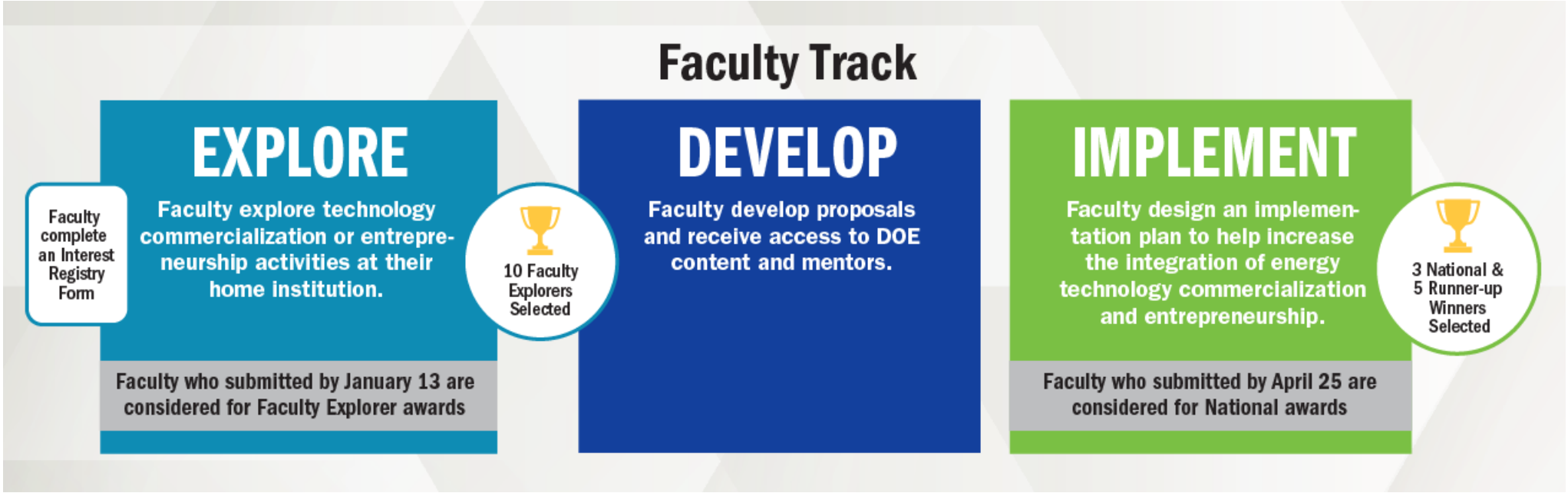
$5,000 to each finalist
$20,000 to each winner

- Geothermal Technologies Office: Innovation and Inclusiveness
- Hydrogen Fuel Technologies Office: Innovation and Inclusiveness
- Office of Electricity: Grid-Enhancing Technologies (GETs)
- Office of Electricity: Long-Duration Energy Storage (LDES)
- Office of Manufacturing & Energy Supply Chains: Adoption of Industrial Decarbonization Improvements at Small and Medium Sized Manufacturers
- Office of Nuclear Energy: Accelerated Development and Deployment
- Solar Energy Technologies Office: Performance, Affordability, Reliability, and Value of Solar Technologies
- Water Power Technologies Office: Advance Hydropower or Marine Energy in the U.S.
- Office of Technology Transitions: National Lab IP Licensing
- Office of Technology Transitions: Undergraduate-Only Team
- Office of Electricity: Grid-Scale Power Electronics (Not yet in Official Rules document)
- Artic Energy Office: Increasing the Arctic's Clean Energy Transition (Not yet in Official Rules document)

Faculty Track Details

Faculty are invited to compete for a share of $110,000 in cash prizes for the successful development and implementation of educational activities that engage an increasing number of students on energy technology commercialization and entrepreneurship topics at their institution.

Faculty Track



- Faculty who submit by January 13 are eligible for Faculty Explorer awards.
- Any faculty can submit to the Implement Phase, even if they did not submit to the Explore Phase.
- $5,000 to up to 10 Different of the Faculty Explorer Entries.
- National Prizes of $25,000 for first place, $15,000 for second place, and $10,000 for third place. Five additional entries will be awarded $2,000 each as runners-up.
- A letter will also be sent to each winner's institution on behalf of DOE announcing the prize award.

Sample Activities

- Short or complementary coursework (e.g., integrating interactive commercialization projects into engineering courses)
- Creating a new course (e.g., designing and implementing a full new academic course)
- Student business plan pitch competitions
- Integrating ETCE education into a new certificate program
- Workshops or seminars with industry experts
- Leveraging existing IP for entrepreneurial concept (e.g., providing national lab IP for student teams to commercialize)
- Mentorship programs (e.g., connecting students to industry experts)
- External partnerships with industry or national laboratories
- Visiting scholar programs between universities to foster the exchange of ideas
- Creating programs to educate other faculty about intellectual property licensing and commercialization strategies at their institution
- Building an incubator or accelerator for students to develop and commercialize their ideas related to ETCE

Sample Activities

- Short or complementary coursework (e.g., integrating interactive commercialization projects into engineering courses)
- Creating a new course (e.g., designing and implementing a full new academic course)
- Student business plan pitch competitions
- Integrating ETCE education into a new certificate program
- Workshops or seminars with industry experts
- Leveraging existing IP for entrepreneurial concept (e.g., providing national lab IP for student teams to commercialize)
- Mentorship programs (e.g., connecting students to industry experts)
- External partnerships with industry or national laboratories
- Visiting scholar programs between universities to foster the exchange of ideas
- Creating programs to educate other faculty about intellectual property licensing and commercialization strategies at their institution
- Building an incubator or accelerator for students to develop and commercialize their ideas related to ETCE

Faculty Feedback from 2024

Motivating Idea Development

- "EnergyTech UP got the ball rolling, and deadlines gave me more motivation to work on my idea."
- "I really enjoyed the application process, as it was more straightforward and less burdensome than most grants I've applied to."

External Recognition

- "Success in the prize helped to shift the needle and convince institutional leadership about the merits of my idea."

Networking

- "I became familiar with the people at my institution who are working on energy and entrepreneurship."
- "As part of my research, I interviewed faculty to better understand what resources existed."

Access to Resources

- "The presentations and materials from NREL and the DOE are useful to me and my students."

Preparing Students for the Student Competition

- "I challenged my students to enter the EnergyTech UP student competition, and they challenged me to enter the Faculty Track.

Exploring Energy Curriculum

- "I didn't previously have an energy background, and this competition helped me to explore the energy space."

Up to 10 faculty (or faculty teams) who submit by January 13, 2025, will be identified as Faculty Explorers and receive $5,000 each.

Faculty Explore Phase

Interest Registry Form

- Name(s) of faculty
- Name of institution(s)
- Email(s) of faculty.

Explore Phase

- **A project title and short summary** of the proposal (no more than 250 words)
- **A single slide that summarizes the proposal** for integrating or expanding the topics of energy technology commercialization and entrepreneurship into the faculty's institution and the potential impact, should it succeed
- **A three-page written document** addressing the suggested content shown in Table 10
- **A completed entry form** on HeroX with answers to all required questions, including institutional demographics
- **Resume or CV** for faculty or faculty teams that includes a summary of experience with teaching entrepreneurship, business, energy, technology commercialization, technology transfer, licensing, or similar topics. Comprehensive prior experience is not required. This information is used to ensure that a diversity of perspectives are included in the program.

Implementation Phase

- **A project title and short description** of the proposal (no more than 350 words)
  An implementation plan *(up to 10 pages) addressing the suggested content shown in Table 12.*
- Submissions may include figures as appropriate.
- **Letter or letters of support** from department and/or institutional leadership supporting the proposal and the implementation plan
- **Resume or CV** that includes a summary of experience with teaching entrepreneurship, business, energy, technology commercialization, technology transfer, licensing, or similar topics. Comprehensive prior experience is not required. This information is used to ensure that a diversity of perspectives are included in the program.
- **A completed entry form** on HeroX including answers to all required questions, including institutional demographics.

Table 10. Registration Submission Content and Criteria

Faculty Registration Submission Criteria for Explore Phase	
Suggested question(s) to address in content:	**Criteria:**
• Why are you applying to this program, and why do you believe that your proposed educational activities will benefit students and your home institution? • How do you see your proposed activities fitting into and complementing current program(s) and student pathways at your accredited institution? • What are the foreseen challenges of implementing your proposed activities into existing program(s) and student pathways within the department/division, and what is your plan for risk mitigation? • Describe the level of commitment from your department and leadership for developing and implementing your proposed educational activities.	• The faculty clearly articulated a credible interest, identified an unmet opportunity at their home institution for the proposed materials, and provided a convincing understanding of the likely benefit to students at their home institution. A vision for the role their plan could play in an equitable energy transition was evident. • The faculty articulated a clear understanding of the current program structure as well as the constraints and flexibility of student pathways leading to program/degree completion requirements. The response considered what would be necessary to achieve success, understood the learning objectives, and summarized the potential impact. • The faculty did not shy away from citing realistic challenges for the implementation of the proposed learning materials within the boundaries of existing course(s) and the department/division/program and described an appropriate risk mitigation plan. • The faculty secured and provided clear and convincing evidence of support from department and/or relevant academic leadership for the development and implementation of the proposed educational activities.

Faculty Implementation Phase

Interest Registry Form

- Name(s) of faculty
- Name of institution(s)
- Email(s) of faculty.

Explore Phase

- **A project title and short summary** of the proposal (no more than 250 words)
- **A single slide that summarizes the proposal** for integrating or expanding the topics of energy technology commercialization and entrepreneurship into the faculty's institution and the potential impact, should it succeed
- **A three-page written document** addressing the suggested content shown in Table 10
- **A completed entry form** on HeroX with answers to all required questions, including institutional demographics
- **Resume or CV** for faculty or faculty teams that includes a summary of experience with teaching entrepreneurship, business, energy, technology commercialization, technology transfer, licensing, or similar topics. Comprehensive prior experience is not required. This information is used to ensure that a diversity of perspectives are included in the program.

Implementation Phase

- **A project title and short description** of the proposal (no more than 350 words)
  An implementation plan *(up to 10 pages) addressing the suggested content shown in Table 12.*
- Submissions may include figures as appropriate.
- **Letter or letters of support** from department and/or institutional leadership supporting the proposal and the implementation plan
- **Resume or CV** that includes a summary of experience with teaching entrepreneurship, business, energy, technology commercialization, technology transfer, licensing, or similar topics. Comprehensive prior experience is not required. This information is used to ensure that a diversity of perspectives are included in the program.
- **A completed entry form** on HeroX including answers to all required questions, including institutional demographics.

Table 12. Faculty Implementation Phase Content and Criteria

Suggested question(s) to address in content:	Criteria:
1. Analysis of Need	
• What are the current demographics of your institution? • What are the existing relevant activities, programs, and/or coursework related to commercialization and entrepreneurship? • What is the scope of the student body that you plan to include in these activities (e.g., graduate, undergraduate, departments or schools within your home institution)?	• The response provides basic demographic information for the home institution. The response conveys an understanding of the academic landscape within and across the institution and demonstrates a clear understanding of current activities around commercialization and entrepreneurship.
2. Actionability	
• What are the educational activities that you are proposing, and how will they support the learnings of students in commercialization and entrepreneurship? • What resources do you need to implement this proposed activity, and do you have them? • How could DOE tools like ARLs, Pathways to Commercial Liftoff, or LPS be implemented in your proposal?	• The response provided high-quality and complete content that is likely to be implementable, impactful, and sustainable at the faculty's own institution. The submitted material was aligned with expected learning objectives and could also be valuable to other U.S. collegiate institutions considering similar efforts. • The materials clearly and meaningfully incorporated ARLs into the content. They also indicated relevant connections to the Pathways to Commercial Liftoff reports and/or other DOE resources.
3. Support	
• What hurdles need to be cleared for the idea to be implemented (e.g., for a new course, is there an internal committee that needs to approve the course before it is part of the official school course offerings)?	• The submission has provided clarity on the potential institutional hurdles that need to be overcome for implementation.
• What support has been established for the proposal as presented, including letters of support to help overcome any hurdles?	• There is clear and credible support from institutional leadership for this proposal and where applicable, support to overcome any hurdles. The submitted materials have provided evidence that their proposals are in alignment with institutional priorities.
4. Potential Impact	
• How is success defined? • How will success be measured? • How will students benefit if this proposal were to succeed? • Could other institutions leverage what you have developed and if so, how?	• The proposed plan clearly addresses the learning opportunities and needs of its intended student population. • The project provided high-quality and complete content that is likely to be incorporated and valuable for sustained use at the faculty's own institution. • Additional degrees of success could be deemed likely through broader impacts if the project materials could be disseminated and implemented at other institutions considering similar efforts.
5. Overall Implementation Plan	
• What is the timeline, and what are the rough stages of implementation? • How will this be implemented? What resources do you need for implementation? Do you have them? If not, what is your plan for obtaining the resources that you need? • How can DOE best support the program in future years (e.g., guest speakers, judges for prizes)?	• There is sufficient information to enable successful implementation, a clear timeline for implementation, and clarity on the resources needed to successfully implement the proposal at the institution. Resources exist or there are ideas on how to get those resources and ideas on how DOE can be involved are included.

Winners are determined based on the analysis of need, actionability, support, potential impact, and overall implementation plan.

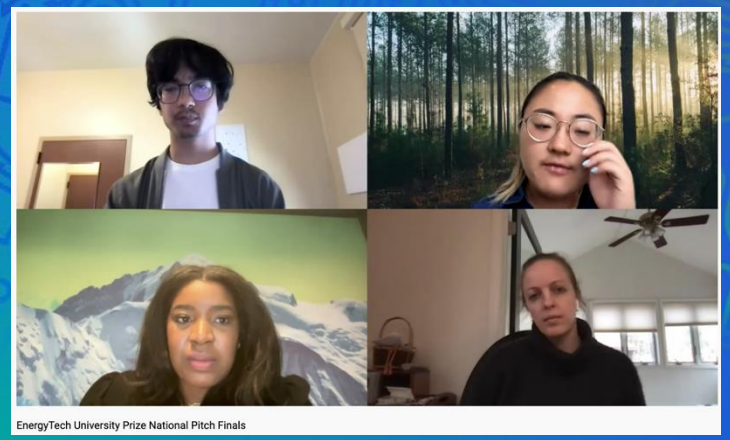
Prizes

Category	Amount	Number Awarded	Total
1st place	$25,000	1	$25,000
2nd place	$15,000	1	$15,000
3rd place	$10,000	1	$10,000
Runner-Up	$2,000 each	Up to 5	$10,000
Faculty Explorer	$5,000 each	Up to 10	$50,000

In addition, a letter will be sent to each winner's institution on behalf of DOE announcing the prize award.

Competitors receive resources, mentorship, and support to help them succeed before, during, and beyond the competition.

Resources and Support You'll Receive


EnergyTech University Prize National Pitch Finals

- Highlighted energy technologies with business potential.
- Access to Energy I-Corps educational materials and Adoption Readiness Level framework training.
- Expert mentorship from DOE, industry, and/or lab staff.
- Example presentations from the 2024 competition.
- Cash prizes.
- Industry connections.

Highlights from Our Past

2,000+ competitors

Representing ~200 institutions

9 program offices offered prizes

(BTO, GTO, OE, FECM, MESC, NE, SETO, WPTO & OTT)

>53

Participating states, DC and territories

$1,100K+

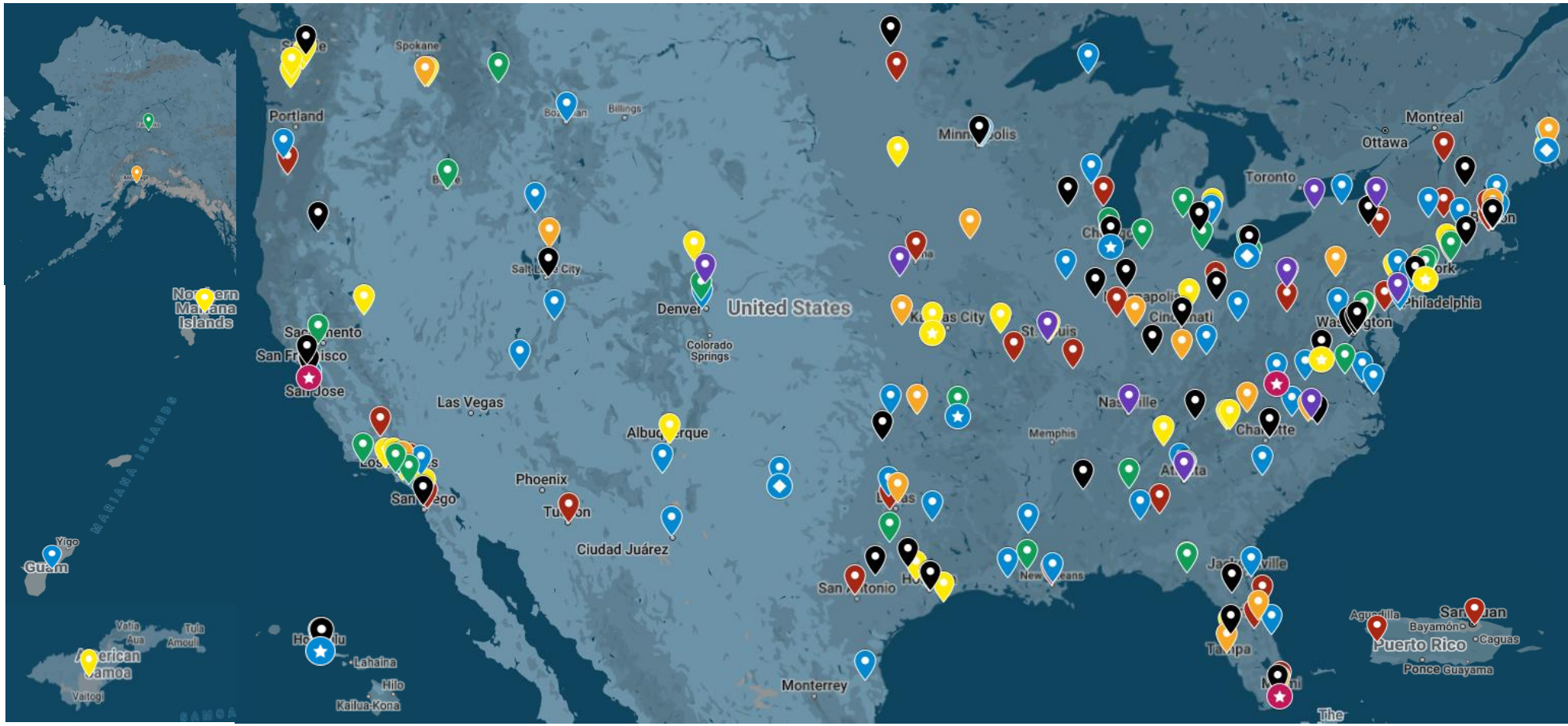
Total funds to 85 winning teams

Check out our student participant testimonial video!

Map of All Participating Schools (2022-2024)

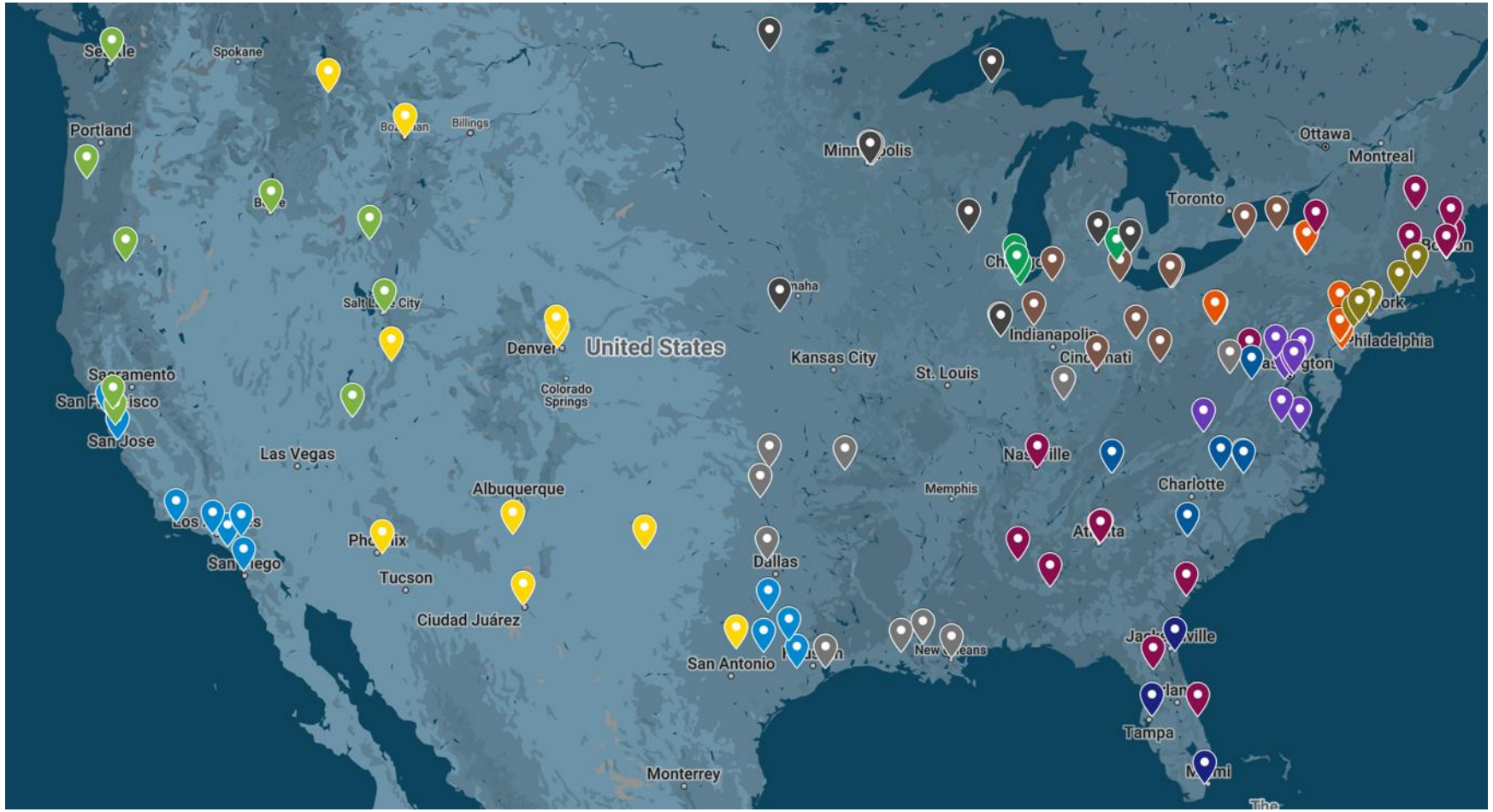
Years Participated & Winners

- 2022 Only
- 2023 Only
- 2024 Only
- 2022 & 2023
- 2023 & 2024
- 2022,2023, & 2024
- 2022 and 2024
- Winners 2022
- Winners 2023
- Winners 2024
- Faculty Winners 2024



All states and territories have been represented last three years, besides Rhode Island and U.S. Virgin Islands.

2024 Competition Cycle



- 225 Student Teams & 52 Faculty Entries
- 117 Schools from 39 states + D.C.
- 50+ Judges Engaged from Industry
- 15 Regional Partners
- 9 DOE Program Offices Funded Prizes
- 1,000+ Competitors

Impact of 2024 Student Competition

"I **learned a ton about technologies** that I either had never even heard of or knew little about."

"The ability to **talk to industry mentors and go through the experience of crafting a business plan** was extremely valuable."

"**Thinking in the business perspective as well as the engineering mindset** will greatly benefit my future endeavors."

"It was a very cool opportunity to **develop a business model around a technology that was brand new to me.**"

Describe EnergyTech UP in one word:

77%

reported increased interest in an energy career

74%

reported increased knowledge of skills required for technology commercialization

Based on 176 respondents in 2024.

>20% Of Teams Utilized the Lab Partnering Service

- 23% of teams competing regionally indicated that a Lab Partnering Service technology was used in the 2023 competition
  - *Compared to 12% in 2022 and 20% in 2023*
- 6 teams out of the 28 that received funding in 2023 competition used an LPS technology

Energy Thought Summit National Event 2024

The 2024 ETS Event Included:

- 28 Finalist Teams
- 15 Regional Finalists
- 13 Bonus Prize finalists
- ~100 Finalist Team Members

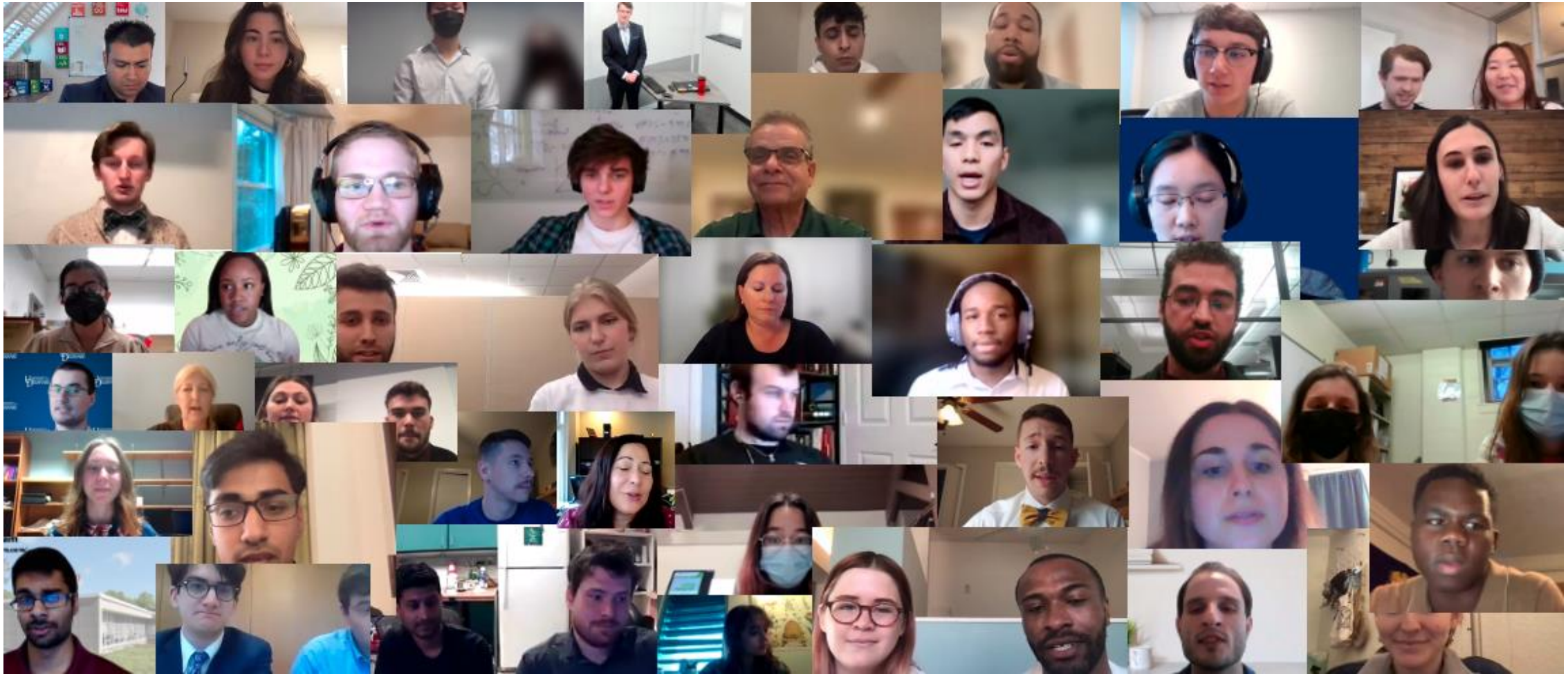
All pictures available here: https://jleitnerphotography.pixieset.com/energytechupnationalpitchevent/
National Event recording available here: https://www.youtube.com/watch?v=_qp61IFGUT4

Success Stories For Our Alumni

- Some past competitors found new jobs.
- Some raised more money.
- Some secured IP.
- Some incorporated as a new business.
- Some secured SBIR funding.
- Some were accepted as Fellows to high-profile accelerators.
- Some were accepted into national lab commercialization programs.
- Some won follow-on pitch competitions.
- Some pursued higher education programs.

Explore & Pitch Events

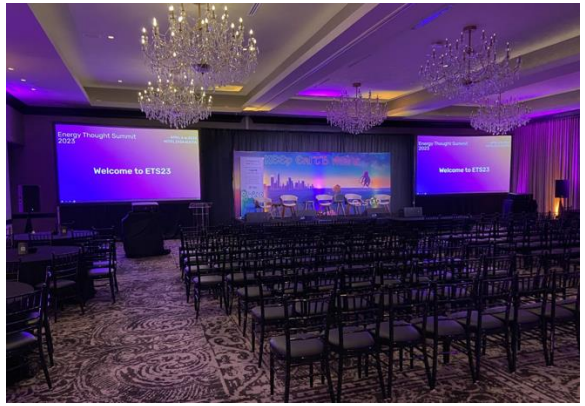
Students Benefit from Pitching, Watching, and Networking

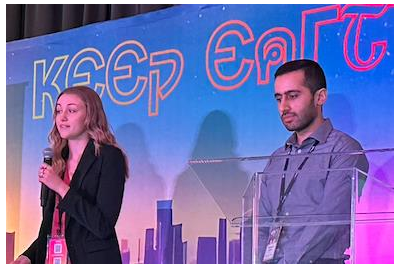


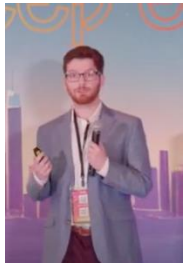
Dozens of Industry Judges Providing Feedback & Connections!

National Pitch Event: April 15 at the Energy Thought Summit

- All student finalists will present and compete for bonus and national prizes.
- Free access to the entire Energy Thought Summit will be provided, though you are responsible for your own travel and lodging costs.







Full video of national pitches is available online: https://www.youtube.com/watch?v=Wt_Ik6u4p5M
Interview with ReLi (2nd place national winner: https://www.youtube.com/watch?v=vC6esmakWJ0&list=PLDnyxu9YaAUvvD-UaCCKP0qdCjF_YY86G&index=5
Interview with Icorium (3rd place national winner): https://www.youtube.com/watch?v=xJT9fNXZvrc&list=PLDnyxu9YaAUvvD-UaCCKP0qdCjF_YY86G&index=8

New in 2024: Select National Student & Faculty Winners Participated in a White House Visit & Round-Table Discussion during Earth Week

THE WHITE HOUSE

APRIL 25, 2024

White House Office of Science and Technology Policy Announces Actions to Spur the Commercialization Climate & Clean Energy Technologies

OSTP › NEWS & UPDATES › PRESS RELEASES

Yesterday, leadership at the White House Office of Science and Technology Policy, the White House National Economic Council, and the White House Climate Policy Office convened senior representatives from the Department of Energy (DOE), U.S. National Science Foundation (NSF), and venture capital organizations, universities, and law firms to announce a set of actions to spur innovation and accelerate progress in tackling the climate crisis. These actions are part the Biden-Harris Administration's commitment to unleashing a clean energy boom through the President's Investing in America agenda and Earth Week announcements in support of building a stronger, healthier future for all.

- DOE's Office of Technology Transitions (OTT) announced three winners and five runners-up ↗ in the inaugural EnergyTech University Prize (EnergyTech UP) Faculty Track as well as three National Winners and 13 Bonus Prize Winners ↗ from the Student Track. Over

EnergyTech UP | OTT Office of Technology Transitions | AMERICAN MADE U.S. DEPARTMENT OF ENERGY

How to Promote or Compete

How to Get Involved

First…

- "Follow" the prize on HeroX.
- Read the Official Rules on HeroX and determine how you want to participate.
- Spread the word using our "Promo Pack" of resources.
  - https://www.herox.com/EnergyTechUP/resource/2069
- Build your team.

Then…

- Explore energy technologies.
- Click "Solve This Challenge" and submit a "Register" entry by Jan. 13 if you're a faculty member or Feb. 3 if you're a student!

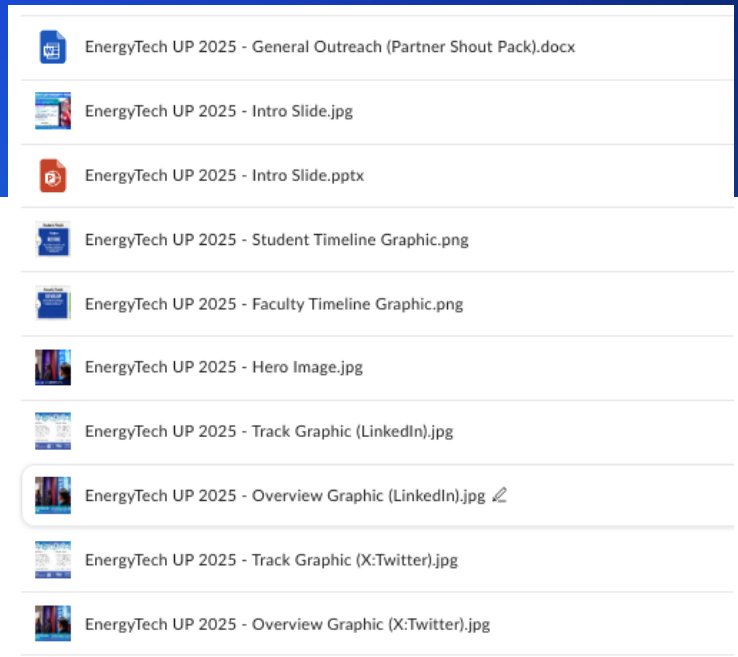
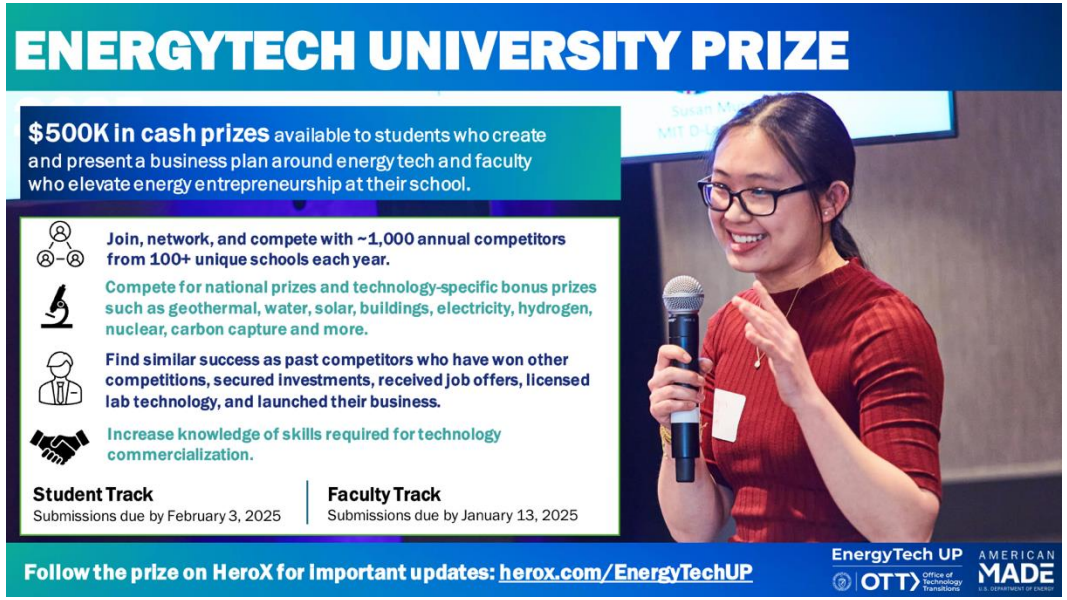
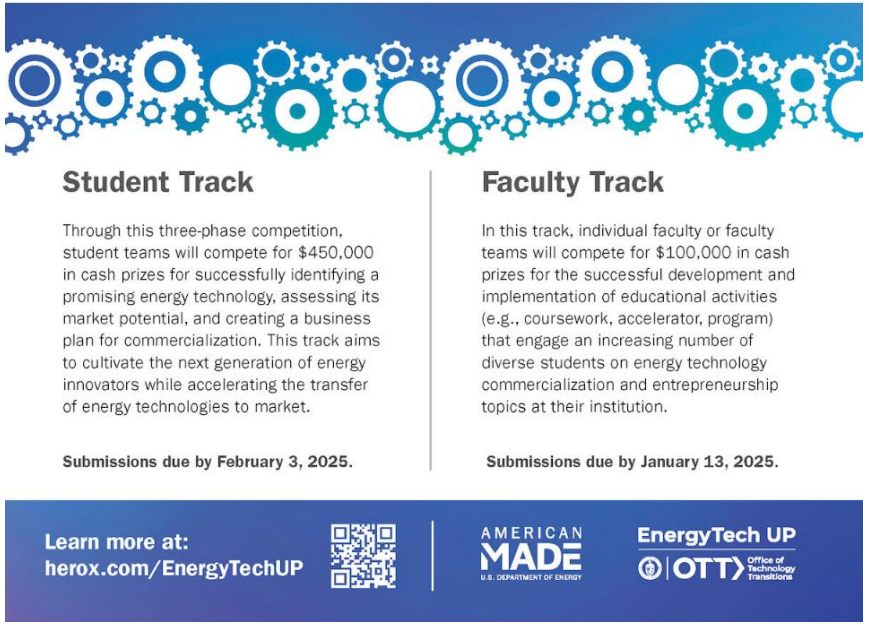


Photo courtesy of the EnergyTech UP 2022 University of Minnesota Twin Cities Ba-Tech Recycling Solutions Team

Leverage Resources to Recruit Students & Faculty

- Social posts
- Newsletter content
- Presentation slide
- Web cards and graphics





Platform	Content	Target Post Date
Twitter/X	The EnergyTech University Prize is back for another round of funding for #cleantech innovators! Whether you're a student or faculty member, there are opportunities for you to build your skillset and earn cash prizes. Learn more about this $545k competition: https://bit.ly/3BxmsMh	Before Oct. 24
Twitter/X	ICYMI: The EnergyTech University Prize is now accepting applications from students and faculty ready to catalyze the #cleantech market. Register today for an info webinar on Dec. 10 to learn more about rules and submission details for the $545k prize: https://bit.ly/4eEL1Wn	Nov. 1 – Dec. 9

Join us!

Faculty submit by January 13 to be considered for Faculty Explorer prizes and by April 25 for national prizes.

Students submit by February 3 to be invited to regional Explore Events.

[I learned how] working with people of different technical skill sets really gave a different feel to the project. I like that it gives less focus to the technical side but emphasizes practicality in implementation. It really gives people who aren't specialized in engineering or scientific topics a chance to make an impact and learn more about sustainability.

-Student Participant

Questions?

[I learned] how to be more optimistic about global warming—it can be an opportunity to create a more sustainable and equitable future.

-Student Participant