

AMERICAN
MADĒ

U.S. DEPARTMENT OF ENERGY

Five-Year
Impact
Report






Here's to the ones who make extraordinary choices every day. To show up and give it your all. To work hard, make things work, and make it through. To dream things that haven't been. To face what we must. To learn all we can. To overcome unknowns, together. We are all kinds of different. But that is our magic. We believe in better. In the power of all of us. In realizing our personal and collective potential for an energy future where everyone thrives. We believe we can change things. We already do in incremental and often indelible ways, every day. We know what we're made of. Equal parts grit, grace, and genius. And because we are bold enough to believe we can change the world, we will join the Department of Energy and a new innovation engine to supercharge extraordinary, bold ideas for our time.

Impact

A MESSAGE FROM THE AMERICAN-MADE LEADERSHIP TEAM



As a nation, we're faced with the biggest challenge and opportunity of our time—transitioning the United States to clean energy and leading the \$23-trillion clean energy economy for greater energy security, justice, jobs, and more. There are economic uncertainties to navigate and a research and development community that has been plagued by barriers that stifle startups and innovation, especially in the cleantech space.

Fortunately, the U.S. Department of Energy (DOE) has been working to build that innovation ecosystem by providing funding for basic and advanced research and development, community collaboration, and workforce development, alongside targeted funding that can help critical early-stage innovations cross “valleys of death” and introduce new innovators to government funding. The goal is to help de-risk these ideas and innovations, then transition them into the private sector, where investors can assist with their commercialization and deployment.

Government funding, however, can be complex and is not known for speed.

Enter the American-Made program. American-Made is designed to incentivize new ideas and accelerate technology deployment by shortening the cycles of innovation from years to months. We reward

startups, organizations, and everyday citizens from all backgrounds who have great—and potentially game-changing—ideas. Through cash prizes, technical expertise, and lower barriers to entry, we make it easier to get new people solving big problems. In short, we incentivize new, grassroots ideas and groundbreaking technologies, pair them with a nationwide network of expertise and resources, and provide technical vouchers to help make these ideas a reality.

This report highlights some of our overarching successes and quantifies the impacts achieved by this program over five years and two presidential administrations. We are proud to say that American-Made has come a long way since its inception, but there is more work to be done. We hope you will not only celebrate our shared successes, but also join us to lay the groundwork for the next stages of the clean energy revolution.

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Our Story

A STORY OF INNOVATION AND ENTREPRENEURSHIP

In January 2018, the American-Made program launched with approval from the White House and DOE with a mission to accelerate innovation and entrepreneurship through prize challenges and a nationwide network of public-private partnerships and support. **The goal was to develop a repeatable, predictable prize model (the American-Made Challenges) and an entrepreneurial innovation network (the American-Made Network) to support participants along their innovation journeys.** American-Made was tasked with delivering not only new ideas and concepts from new applicants, but also supporting and deploying these innovations in applied, real-world, community- and commercial-ready settings, helping to overcome barriers and connect to DOE's other research and development efforts. A voucher program was subsequently implemented to quicken connections between innovators and the technical assistance of DOE's national laboratories.

The first of the American-Made Challenges—the Solar Prize—was launched through an investment from DOE's Solar Energy Technologies Office (SETO) as a \$3-million, multi-stage competition. It used the resources of the budding American-Made Network and offered technical vouchers. And its simple, easy-to-understand application and submission process made it accessible to a large pool of participants. Competitors pitched innovations at a “demo day” attended by industry experts, and two final winning teams went on to achieve even more. It was a huge success.

The American-Made Network was proven to be an essential facet of the program from the start. As a complement to the prizes, it boosted innovator successes by inviting members from across industry and academia to connect with our innovators and provide game-changing expertise, assistance, and resources. And Network members responded at every stage—by helping



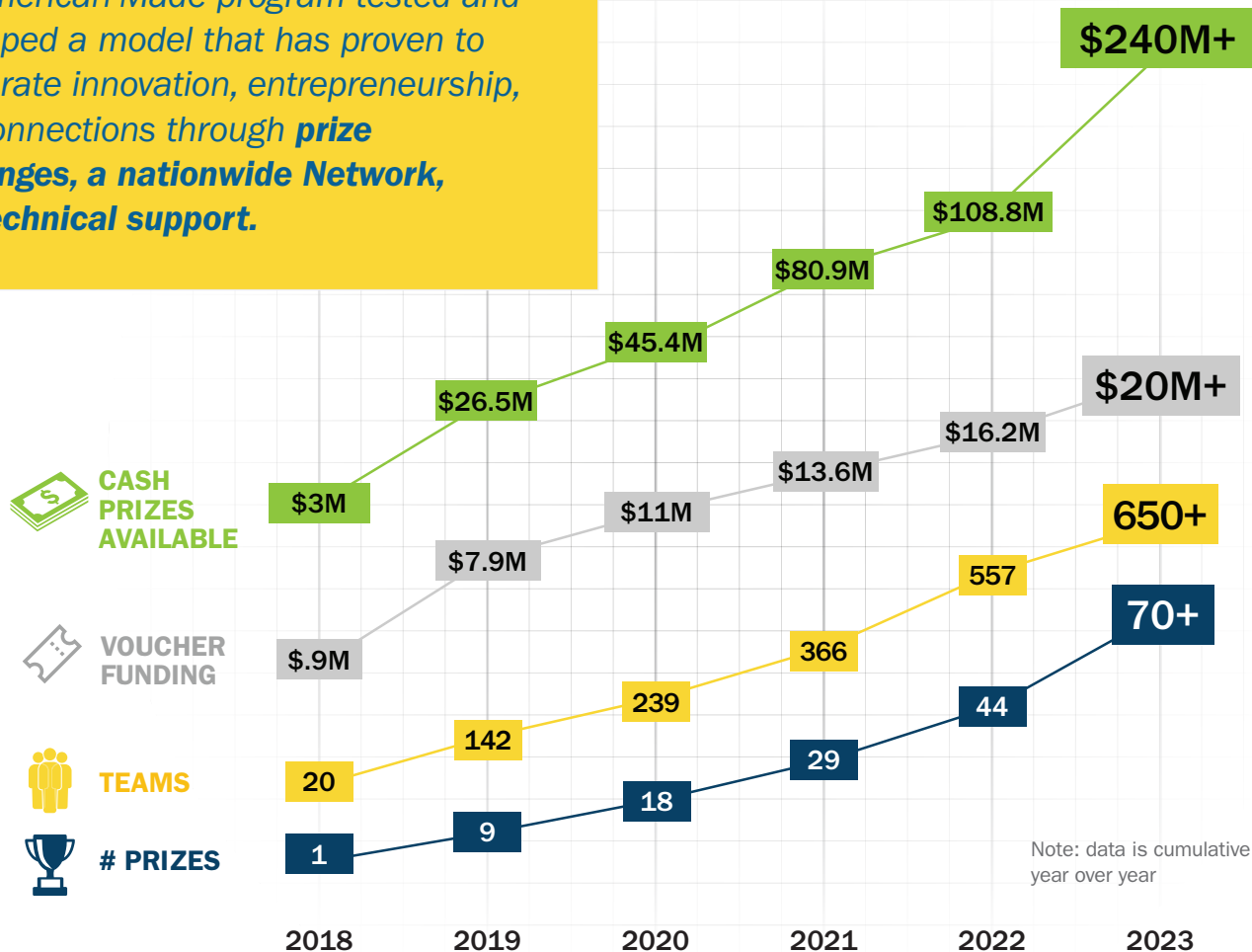
potential applicants refine everything from their initial submission packages to their designs and commercialization strategies; directing winning teams to technical, business, and financial coaching; and even finding sponsors and investors to help advance solutions and businesses. **DOE's national laboratories commanded a unique position within the Network, making world-class facilities, expertise, and research available to prize teams through technical vouchers.** The American-Made Network has fostered hundreds of industry relationships, bringing the vision for public-private partnerships to life.

And the model worked. Big ideas surfaced. Other DOE offices—including Manufacturing, Vehicles, Water, and Geothermal offices—introduced their own prizes, followed by many others. Thousands of teams applied and were supported by well-timed, right-sized resources. And before we knew it, prizes were serving as test beds for advancements in technology innovation and development, hardware,

software, manufacturing, community involvement, capacity building, program development, data collection, education and training opportunities, and more. **In just five years, 70 new prizes have emerged from more than 20 DOE offices, offering a total of \$260 million in cash prizes and support. New prizes have been launched at regular intervals, leading to new businesses and unprecedented levels of collaboration in technology acceleration and deployment.** As part of the larger DOE innovation ecosystem, the program has begun positioning participants to be successful in other DOE research and development funding opportunities.

Although DOE had tested other prize mechanisms previously, American-Made became the first organized, multifaceted approach to government prize funding and has grown to be the largest and most crosscutting innovation ecosystem to date. From the beginning, the program has been administered and nurtured by the National Renewable Energy Laboratory (NREL), which drew from its experience in prize and competition design to help shape the model.

*The American-Made program tested and developed a model that has proven to accelerate innovation, entrepreneurship, and connections through **prize challenges, a nationwide Network, and technical support.***



Why it Works

AN ECOSYSTEM OF PROBLEM SOLVERS RUNS THE AMERICAN-MADE INNOVATION ENGINE

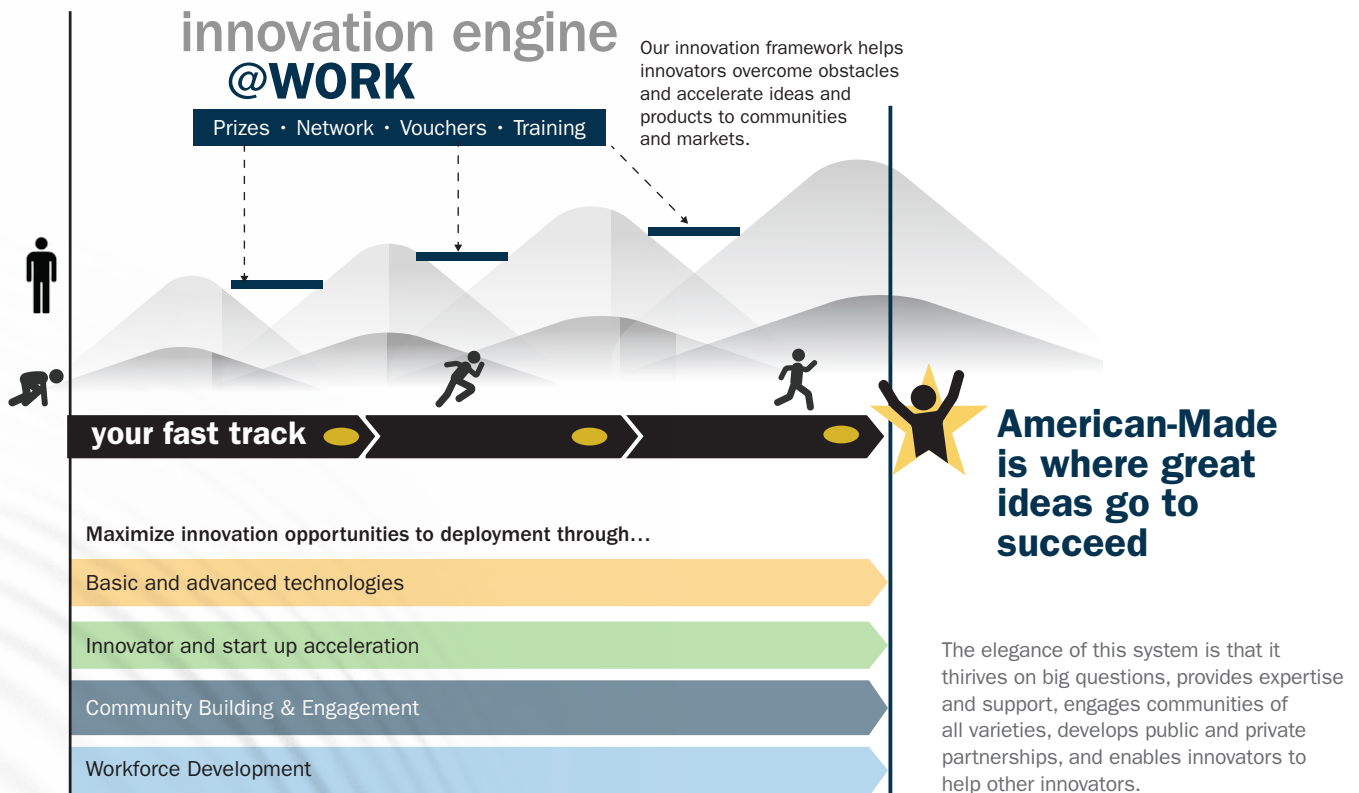
American-Made is a holistic, ever-expanding ecosystem, an entry point for innovative problem solvers rising to meet some of our nation's biggest challenges. The program supports innovators and entrepreneurs who are speeding our transition to clean energy and making its benefits accessible to communities everywhere. And we're using our unique, proven innovation engine as the model to do just that. Here's why.

Big ideas in cleantech—whether from startups or community organizations—face enormous research, development, investment, and regulatory hurdles, adding to the daunting sense of risk ventures face. Known by some as the “valleys of death,” these pitfalls occur when resources dwindle. As many as

90%* of new ideas fail here. Bridging these gaps, with the right level of government and public-private investment and resources, is partly how American-Made makes the nation's innovation environment friendlier to entrepreneurs and innovators. This is especially true for capital-intensive, high-risk technologies, but the same potential pitfalls are encountered by most new ventures attempting to effect change across industries or within communities. Our model helps address these hurdles.

* <https://www.investopedia.com/articles/personal-finance/040915/how-many-startups-fail-and-why.asp>





It works like this: We incentivize new, grassroots ideas and groundbreaking technologies through prizes and competitions, making government funding more accessible. Then, these concepts are paired with an unparalleled network of expertise and resources that helps navigate each stage toward implementation or commercialization.

Speeding this kind of innovation is no small task, but American-Made is becoming a clear, accessible fast track to the clean energy revolution.

- To innovators, American-Made represents an easier way to begin to access federal funding, engage DOE, connect with national labs, and access high-caliber support to realize the success of their ideas, technologies, and community-based solutions.
- To industry members, it's an opportunity to learn about, shape, and support new and emerging technologies in ways that enhance their own networks and missions.
- To DOE, it's a powerful mechanism to develop inroads to new pools of talent, break open new ideas, inform future research and development opportunities, and infuse initial capital into the most promising ideas and organizations.

By fostering a culture where “great ideas are welcome, supported, and successful,” American-Made leverages its proven pathway and expert network to take viable ideas from concept to commercial-ready.

By the Numbers

Years of American-Made Impacts

8

prizes focused on communities: Buildings Upgrade Prize, Community Clean Energy Coalition Prize, Community Energy Innovation Prize, Community Power Accelerator Prize, Energizing Rural Communities Prize, Energy Champions Leading the Advancement of Sustainable Schools (Energy CLASS) Prize, Inclusive Energy Innovation Prize, Sunny Awards



1,433

subscribers to the American-Made newsletter

3

prizes focused on data and analysis: Net Load Forecasting Prize, Solar Data Bounty Prize, and Solar Forecasting Prize



17

DOE national laboratories

\$108M

biggest cash offering in a concurrent suite of prizes: Direct Air Capture Prizes

\$108M

biggest cash prize: DAC Prizes

4

Solar Power International and RE+ engagements with VIP stage appearances and special programming for innovators and prize winners

60%

of teams in 20 prizes reported diversity of applicants

25+

private laboratory facilities have received technical vouchers

4

prizes focused on hardware testing: Conductivity-enhanced materials for Affordable, Breakthrough Leapfrog Electric and thermal applications (CABLE) Conductor Manufacturing Prize, Floating Offshore Wind Readiness (FLOWIN) Prize, Geothermal Lithium Extraction Prize, and Waves to Water Prize

8

are members of the Open Voucher Call Collaborative: Ames, ANL, LANL, LBNL, NREL, ORNL, PNNL, and SNL



94
American-Made newsletters sent

2

American-Made Earth Day events

40%

of teams in 15 prizes were first-time applicants to DOE funding



1

National Association of Government Communicators Blue Pencil and Gold Screen Award for brand graphics

7

rounds of a prize Solar Prize (now in Round 7)

9

prizes focused on students: Algae Prize, Carbon Management Collegiate Competition, Collegiate Wind Competition, Community Energy Innovation Prize (Collegiate Track), EnergyTech University Prize, Geothermal Collegiate Competition, Historically Black Colleges and Universities (HBCU) Prize, Hydropower Collegiate Competition, and Marine Energy Collegiate Competition



70+
prizes



450
Network members

12

national labs partnered with innovators through vouchers: Ames, ANL, Fermi, INL, LANL, LBNL, NETL, NREL, ORNL, PNNL, SLAC, and SNL



3,430
total eligible submissions

1st

First-ever field test: Waves to Water Prize

17

DOE National Laboratories



\$20M+
for all vouchers

AMERICAN
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\$240M+
available in cash prizes

1st

prizes to secure an external sponsorship to increase the prize pool (\$300K total): Solar Desalination Prize and Waves to Water Prize



650
teams funded



\$260M
in cash prizes and support available

1

prize focused on processes: Solar APP+ Prize



160+
technical vouchers

6

national labs are members of the Vouchers To Enable Laboratory and Organizational Collaboration for Innovation and Technology Improvements (VELOCITY) Collaborative: Ames, ANL, LANL, NREL, PNNL, and SNL



20+
participating DOE technology offices

7

DOE offices have designed prizes with technical vouchers

25

Power Connectors



1,995
followers on American-Made social media accounts

Longest

running single round of a prize: Lithium-Ion Battery Recycling Prize (Jan. 2019 and counting)



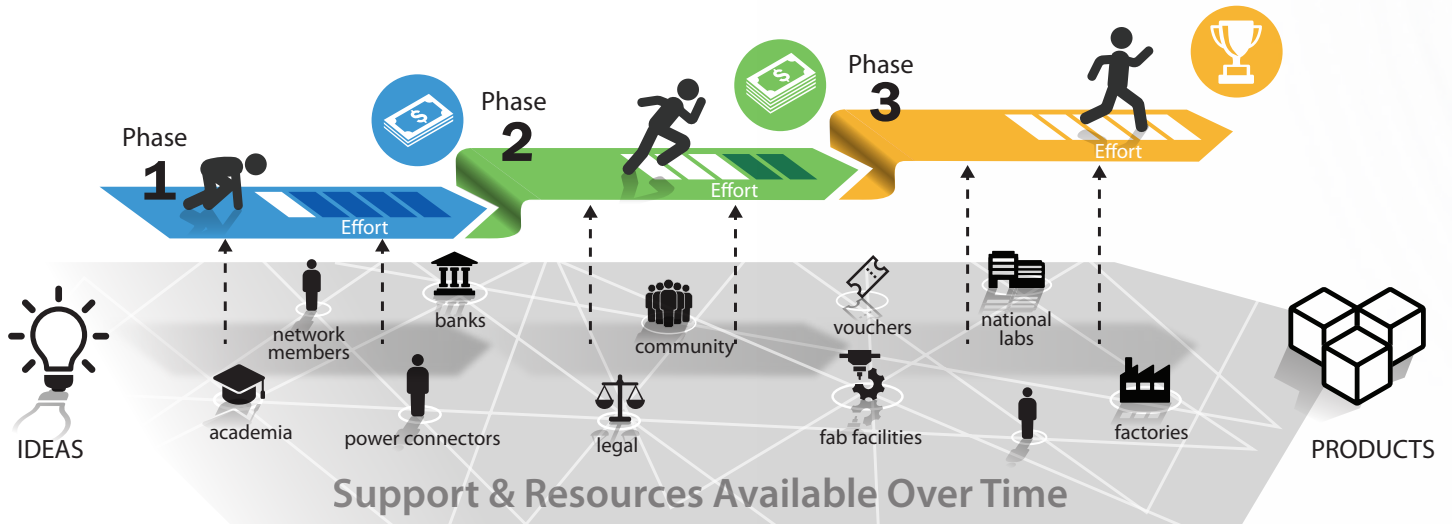
50

submissions from all 50 states

Prizes

PRIZES EMPOWER PARTICIPANTS TO TACKLE TOUGH ISSUES

As the foundation of the American-Made program, the American-Made Challenges house a variety of prizes and collegiate competitions designed to empower innovators and communities to tackle tough energy and climate issues.



Prizes are often divided into distinct phases that help lift innovations off the ground. At the end of each phase, winners are rewarded with levels of funding that are commensurate with the level of effort required by the phase. Funding levels—and the effort required to meet prize milestones—increase as the phases progress.

Cash prizes, recognition, and other incentives speed the development of a range of clean technologies, rapid prototyping, data collection, community involvement, outreach, capacity building, educational and training opportunities, teaming strategies, and more.

All prizes share an emphasis on engaging new, diverse participants. Many reward teams who actively span industries, build diverse teams in underrepresented communities, or develop solutions that can advance energy justice in underserved populations.

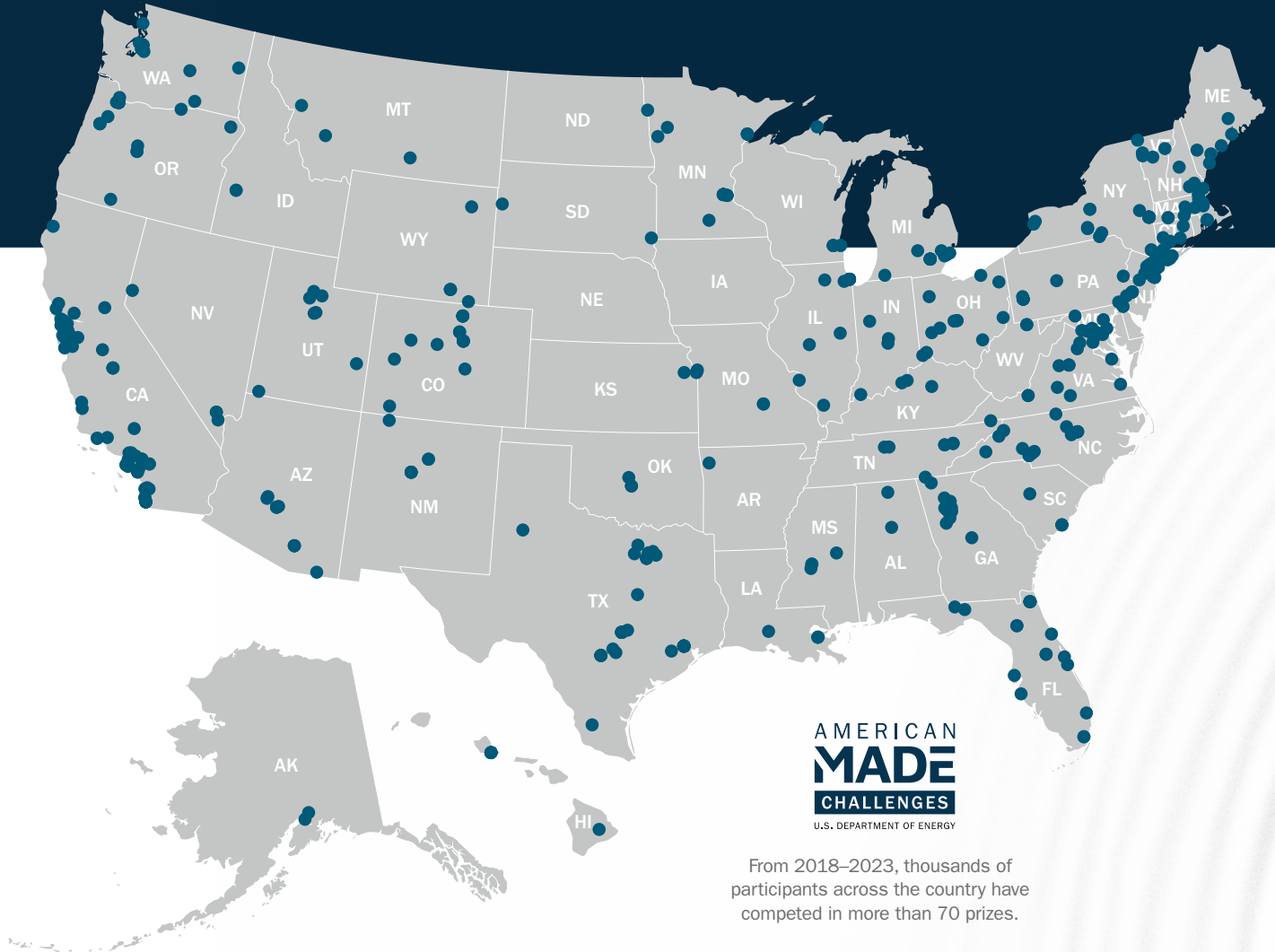
Prizes Designed To Address Challenges, Speed Innovation

Prizes can be designed to address many challenges. Administrators first determine the most important, achievable goal for the prize—focusing on a technology, a community, a process, program development, or some combination. Then, they create a flexible, and often multi-phased structure, that gives innovators the appropriate amount of time—and cash rewards—to make progress on their concepts. The timelines are tight enough to encourage forward momentum, while still offering competitors enough time to produce quality work. This approach also helps competitors maintain momentum after the prize concludes.

Prizes at a Glance

- 70 prizes
- \$260M in cash prizes and support available
- 650 teams funded
- Submissions from all 50 states
- Prizes for technologies, communities, processes, and program development

Winning Prize Teams (2018-2023)



From 2018–2023, thousands of participants across the country have competed in more than 70 prizes.



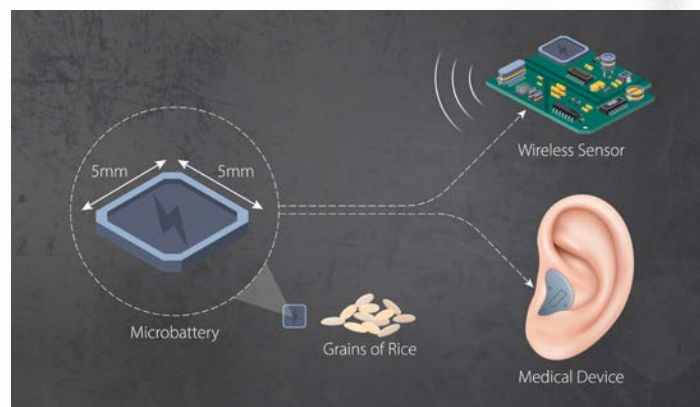
Prize Highlights Span Wide Range of Innovation

The American-Made Challenges cover many areas of innovation, from renewable energy innovation to making buildings more energy efficient to bringing access to renewables to underserved communities.

AMERICAN-MADE CHALLENGES...

» DESIGN TECHNOLOGIES BIG AND SMALL.

You'll find the biggest ones in the **FLOWIN Prize**, which invites competitors to design platforms for massive offshore wind turbines, providing \$5.75 million in prizes and \$1.1 million in technical assistance. The smallest technologies are part of the **Microbattery Design Prize**, which is aimed at improving microbattery performance, safety, and recyclability, and offers winning teams the opportunity to test their batteries within national labs.



Prizes: Prizes Empower Participants to Tackle Tough Issues



AMERICAN-MADE CHALLENGES...

» MAKE WAVES.

The five-stage, \$3.3-million **Powering the Blue Economy™: Waves to Water Prize** partnered with the Coastal Studies Institute to challenge competitors to turn seawater into drinking water using wave energy converters that can be easily deployed in disaster-relief scenarios or remote communities. Seismic waves were the focus of the **Geothermal Geophone Prize**, which was designed to inspire innovative, high-temperature downhole sensors for enhanced geothermal systems.

» PUT DIVERSITY, EQUITY, AND INCLUSION FRONT AND CENTER.

American-Made has launched several prizes in the last few years designed to enable communities to craft their own clean energy programs and initiatives. The **Inclusive Energy Innovation Prize** and the **Community Clean Energy Coalition Prize** did so in a way that also carried out the goals of the Justice40 Initiative, which directs clean energy funding to underserved and underrepresented communities. The **Energizing Rural Communities Prize** is helping remote and rural towns—often overlooked in the clean energy transition—get the infrastructure and investment they need to improve their energy systems and advance clean energy demonstration projects. And this year's **HBCU Clean Energy Education Prize** was designed to support historically black colleges and universities in establishing education programs related to clean energy and relevant career opportunities for students of all ages.



Energy Transformation Initiative

Summary
Energy Transformation Initiative (ETI) provides technical and management training to help vulnerable build careers and opportunities in the clean energy sector. ETI is a partnership of several groups, with the primary goal of STEM and energy occupations.
Students participated in ETI in our first year, college students and 80 high school students. Top eight college students joined Alabama's Innovation Center (AIC), and gained higher energy assessment and management skills. A conducted site assessments and prepared the recommendations for local manufacturers. The college students worked as mentors in the first program where they planned sessions and energy to 84 high school students. Mentors share knowledge and passion for sustainability with and teachers they worked with.
In phases, we recruited former college, a private, Black college in Tuscaloosa, to further AIC's reach. We will be able to expand the program into 10 and 100+ schools, further creating a path and pathway to clean energy in Alabama through and workforce development.

Team Bio

Dr. Carter Hill, Lead Mentor, is a professor at Alabama State University. Dr. Hill is a member of Alabama's Innovation Center (AIC) and is currently working on a grant from Alabama A&M and Alabama State University. Dr. Hill is a member of the Alabama State University's Mechanical Engineering Department. Dr. Cynthia Roman from Southern

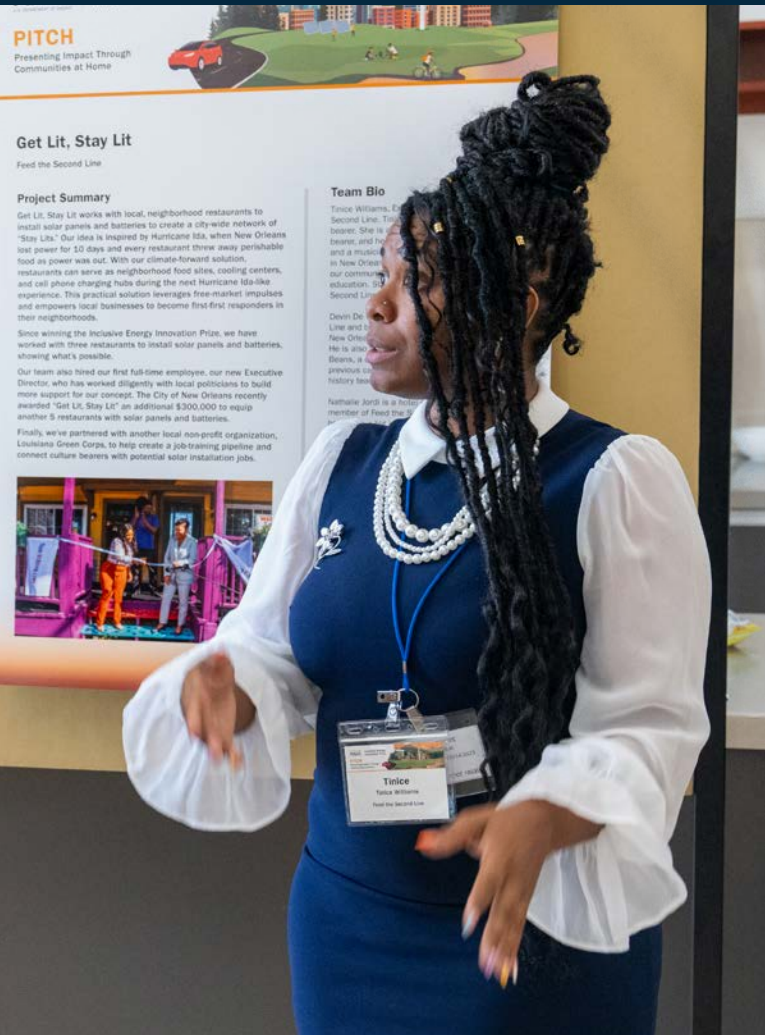




Our Commitment to Diversity

While all American-Made Challenges share an emphasis on engaging new, diverse participants and viewpoints, more and more prizes are placing diversity, equity, inclusion, and accessibility at the forefront. Many are designed with multi-stakeholder input to better serve communities and empower them to customize solutions including, jobs and workforce development, new buildings and upgrades, and other opportunities that are led and managed by the community. These prizes include:

- Buildings Upgrade Prize
- Community Clean Energy Coalition Prize
- Community Energy Innovation Prize
- Community Power Accelerator Prize
- Equitable and Affordable Solutions to Electrification (EAS-E) Home Electrification Prize
- Energy CLASS Prize
- Energizing Rural Communities Prize
- Inclusive Energy Innovation Prize
- Inclusive Solar Outreach Awards
- Solar Prize Justice, Equity, Diversity, and Inclusion Contest
- Sunny Awards.





AMERICAN-MADE CHALLENGES...

» ACHIEVE EPIC STATUS.

The **Energy Program for Innovation Clusters (EPIC) Prizes** provide support for incubators and accelerators with programming for energy entrepreneurs; Round 3 of the EPIC Prize features a new prize-to-cooperative-agreement funding model. The EPIC model has been replicated across technology areas, such as in the **Direct Air Capture EPIC Prize**, launched in 2022.

AMERICAN-MADE CHALLENGES...

» ENJOY A SUNNY FUTURE.

The **Solar Prize**, American-Made's first prize, is now in Round 7; over the last five years, the prize has distributed nearly \$20 million in cash prizes and more than \$5 million in technical vouchers to 140 teams. The Solar Prize opens annually to new ideas that support U.S. leadership in solar manufacturing.

» FORGE UNLIKELY PARTNERSHIPS.

From the distinctive alliance of geothermal technology with 3D printing in the **Geothermal Manufacturing Prize** to the collaboration between building experts and the robotics industry in the **Envelope Retrofit Opportunities for Building Optimization Technologies (E-ROBOT) Prize** and the joint endeavors of utilities and software developers in the **Digitizing Utilities Prize**, American-Made unites industries that thrive when working in tandem.

» BUILD AN ENERGY-CONSCIOUS FUTURE.

Inefficient commercial and residential buildings are major emitters of greenhouse gases, making them the perfect target for energy efficiency and other decarbonization efforts. Recent prizes like the **Buildings Upgrade Prize** and the **Equitable and Affordable Solutions to Electrification (EAS-E) Home Electrification Prize** are working to generate solutions that can be applied to buildings of all shapes and sizes, especially in underserved areas.

» INSPIRE OTHERS TO GIVE.

In early 2022, the Wood Next Fund provided a \$300,000 grant to semifinalists from the first round of the **Solar Desalination Prize** and finalists from the **Waves to Water Prize**, with the goal of helping them advance their renewable-energy-based solutions to creating clean drinking water. Likewise, Google provided a generous in-kind sponsorship to the Inclusive Energy Innovation Prize, providing essentials like venue space, catering, and audio/visual support, thereby creating a dynamic platform for competitors to collaborate with DOE representatives and explore other funding opportunities.



We followed up with winning Solar Prize teams 1–4 years after they competed in the prize to learn about their progress. We heard back from 75 respondents and found that:

- 97% are still working on their Solar Prize innovation.
- Teams collectively hired 163 employees during and after their prize.
- 35 teams raised an additional \$46M of funds during and after their prize from investments, grants, and venture debt.
- 16 teams reported a combined \$4.9M in revenue from their Solar Prize innovations.
- 70% reported having an active partnership that is helping them reach their goals, including 76 active partnerships with organizations in the American-Made Network.

WINNERS SPOTLIGHTED ON PATH TO COMMERCIAL SUCCESS



ILLU SOLAR:

Solar Prize Software Track Round 5 Winner

Awarded \$290K in cash prizes and \$50K in technical vouchers

illu created a mobile and desktop tool for operations and maintenance workflow management that will assist field technicians and simplify distributed solar maintenance.

illu was able to launch their software to the public just six months after winning the prize, and it already has more than 100 users who say it's a game changer in terms of how they manage their deployment and installation processes, helping them get critical solar assets on the ground as quickly as possible.



ULTRA-HIGH TEMPERATURE LOGGING TOOL:

Geothermal Manufacturing Prize Winner

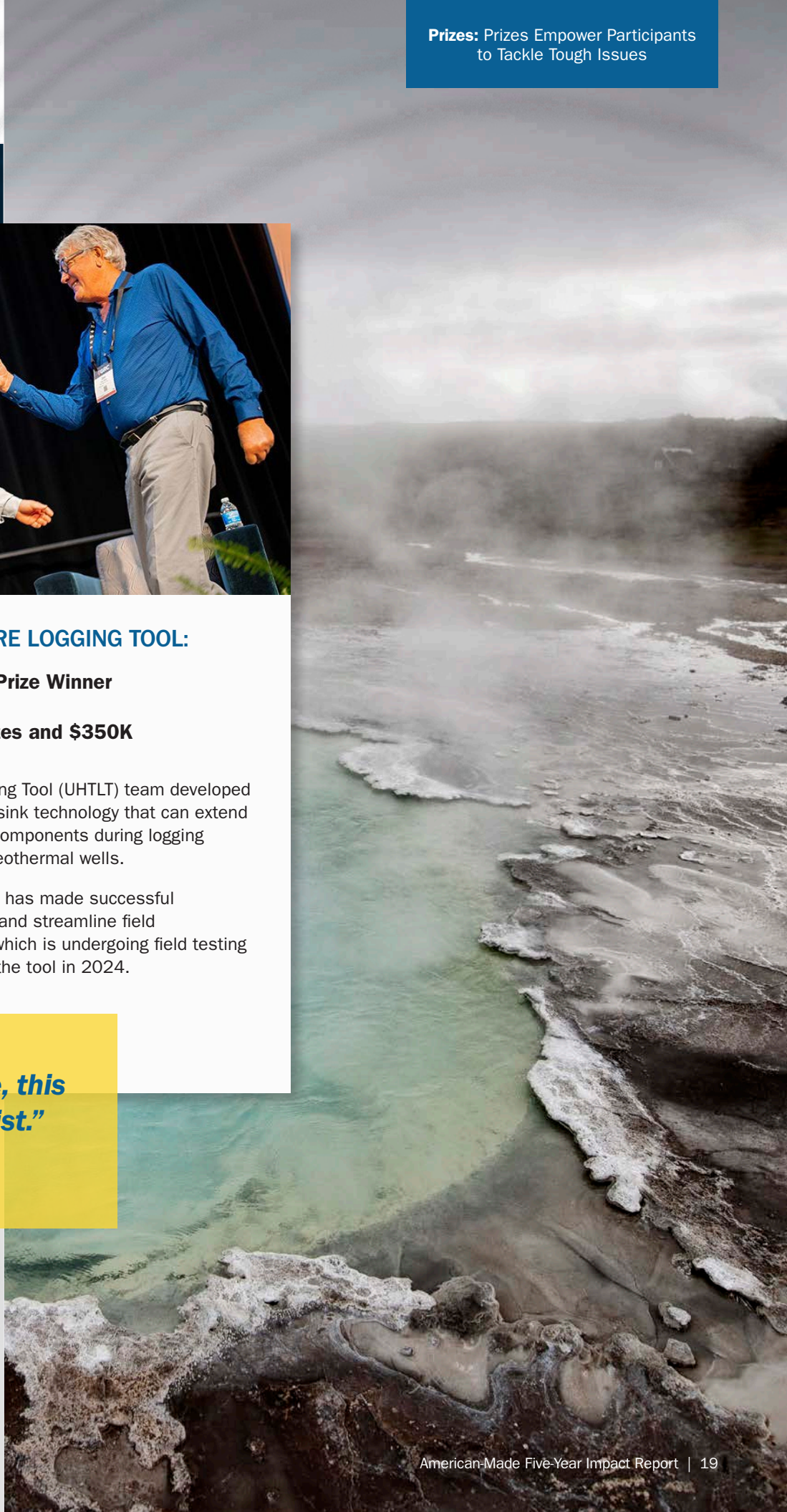
Awarded \$783K in cash prizes and \$350K in technical vouchers

The Ultra-High Temperature Logging Tool (UHTLT) team developed an additively manufactured heat sink technology that can extend the downhole time of electronic components during logging operations in high-temperature geothermal wells.

Since winning the prize, the team has made successful improvements that reduce costs and streamline field preparations for the technology, which is undergoing field testing with the goal of commercializing the tool in 2024.

“Without this challenge, this technology wouldn’t exist.”

—Jeff Johnston, UHTLT



WINNERS SPOTLIGHTED ON PATH TO COMMERCIAL SUCCESS



KLAW INDUSTRIES:

EnergyTech University Prize and EPIC Prize Winner

Awarded \$125K in cash prizes

In 2022, a group of college students, working as Klaw Industries, won the Fossil Energy and Carbon Management Bonus Prize in the inaugural EnergyTech University Prize. Their winning concept, called Pantheon, is a carbon-negative replacement for cement made from post-consumer glass. They later earned a \$400K Phase II Small Business Innovation

Research Award from the U.S. Environmental Protection Agency, as well as first place and \$100K in the 2023 American-Made EPIC Prize Pitch Competition.

Today, Klaw Industries has completed more than 60 pilot projects and sold nearly 50 tons of their Pantheon material.

ONEKA TECHNOLOGIES:

Waves to Water Prize Winner

Awarded \$500K in cash prizes

Oneka had already commercialized their large-scale wave-powered desalination systems when they entered Waves to Water. For the prize, they were challenged to scale down their technology into compact systems that could be more easily deployed in disaster-relief scenarios and in remote communities.

Since winning with their Snowflake design, Oneka has received follow on funding from the Water Power Technologies Office, private investment, and grant funding from the state of California.

ROBOATTIC:

E-ROBOT Prize

Awarded \$866K in cash prizes

The RoboAttic team developed a robotic attic vacuum cleaning and air sealing system for inaccessible attics and confined spaces. The automated nature of the system allows for quick, cost-effective, and safe retrofitting that can boost energy savings.

Since the prize, the team has enhanced the technology's ability to climb joists automatically and is in talks with an insulation company and a leak sealing company about commercialization.

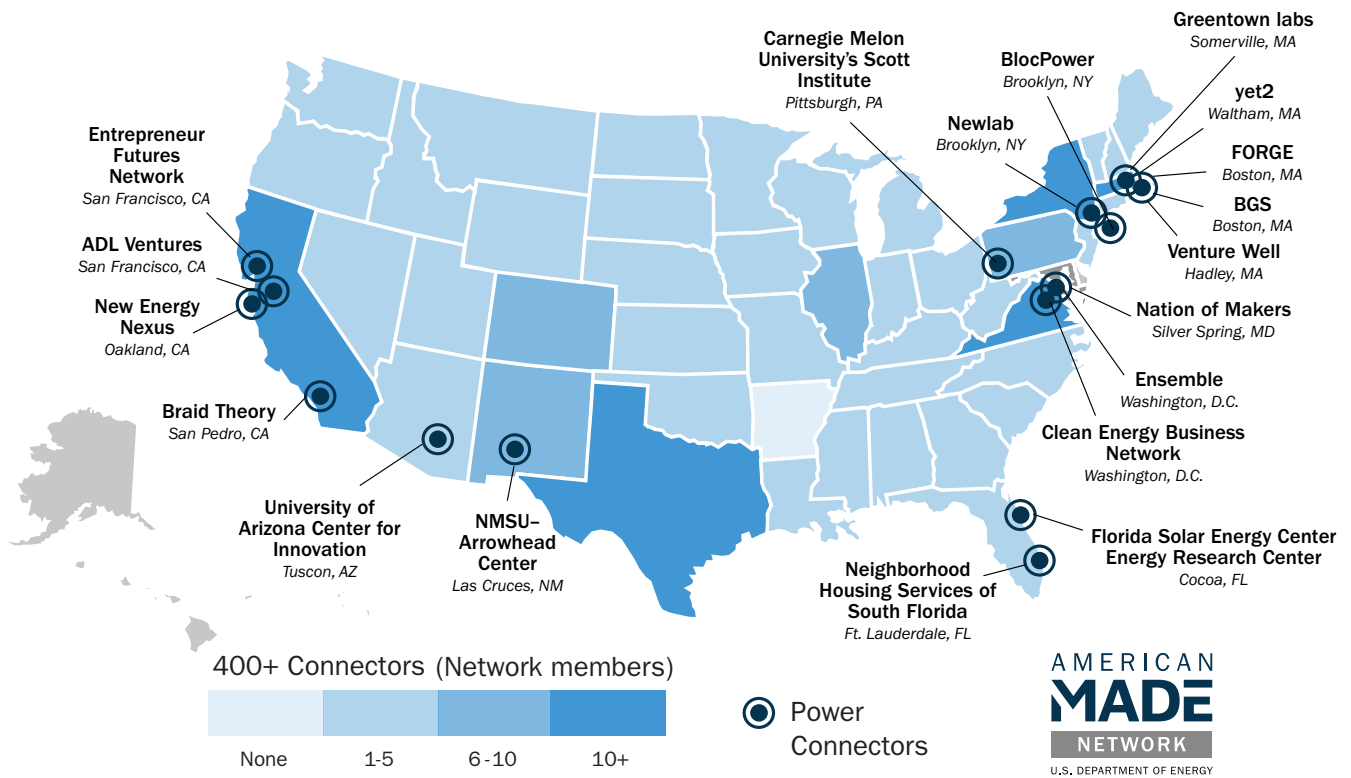
*To learn more about our prizes, visit
www.americanmadechallenges.org/challenges.*



Network

AN EVER-EXPANDING NETWORK OF INNOVATORS

The American-Made Network is an ever-expanding ecosystem of innovative experts, resources, and problem solvers. This one-of-a-kind network was invented to reduce the risks and pitfalls that accompany new ideas and startups by providing competitors with expert-level support, public-private partnerships, and community collaboration.



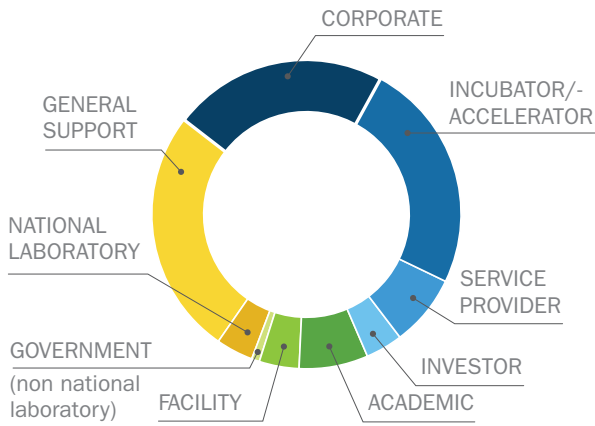
The ever-expanding American-Made Network comprises members from communities large and small in nearly every state who bring unique perspectives and technological expertise to the program. Power Connectors offer specialized support to teams across the country.


70+
 PRIZES
 SUPPORTED

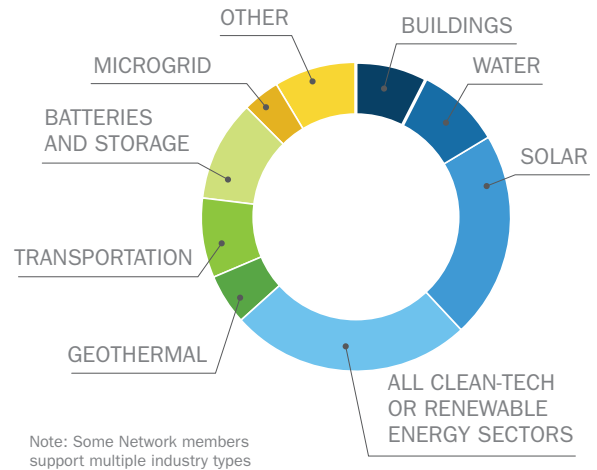

450
 TOTAL NETWORK
 MEMBERS


\$260M+
 TOTAL CASH
 PRIZES DISTRIBUTED

ORGANIZATION TYPE



INDUSTRY



Network members consist of crosscutting industry,

The Network currently includes more than 450 clean energy industry experts, facilities, accelerators, venture capital firms, and research and academic institutions. Network members come from 11 different cleantech industries in 48 states and the District of Columbia. DOE’s national laboratories are also a key part of the Network, as are a cadre of competition alumni whose prize experience was so impactful that they are reinvesting in the success of American-Made by offering their own support.

Network members provide technical, business, and financial expertise to prize teams across the country that are often early in the development of their idea, product, or service and have a variety of support needs. Some need business strategy assistance, go-to-market guidance, product development help, access to technical facilities for prototyping and testing, or legal and intellectual property advice. Others receive business mentoring

and pitch coaching as well as guidance in their continued journey in the prize competition process. The Network is continually evolving. As the prize program expands to include more and more niche technology areas, Network members who can support competitors in these areas find themselves in high demand.

The Network is continually evolving. As the prize program expands to include more and more niche technology areas, Network members who can support competitors in these areas find themselves in high demand.

The Network at a Glance

- 450+ Network members from industry and academia
- 17 national laboratories
- 19 current Power Connectors



Network Member Jade Garrett Helps Teams Win

As one of our most engaged Network members, Positive Deviancy's Jade Garrett has supported 182 teams over 36 prizes. Of the teams she has supported, 41 have won roughly \$7.5 million in prizes, with eight of those teams being grand prize winners. During the recent Inclusive Energy Innovation Prize, for example, she supported six teams, sharing her project management expertise with one team and creating a how-to playbook alongside another. Of the six teams she assisted, four went on to win the grand prize.



In return for their membership, Network members gain early access to new concepts, create new business opportunities and partnerships, receive invitations to networking events, and tap into many other benefits. Ultimately, the Network gives members the opportunity to meet and collaborate with a unique and committed community of clean energy leaders who share a passion for accelerating the clean energy revolution.

POWER CONNECTORS PROVE INVALUABLE PARTNERS

Power Connectors, a select group of industry leaders within the Network, have been contracted to support prize participants and program objectives by offering specific support. In the past five years, nearly \$4 million has been invested in more than 25 Power Connectors in cities across the United States to enable team support and technical assistance. Power Connectors have proven invaluable to competitors' experiences, and they continue to be key partners in the American-Made program. They offer specific support, such as:

- Providing mentorship and coaching to advance team knowledge and connect teams to the resources required to be successful
- Offering pitch consulting to improve presentations and pitch session successes
- Enhancing prize recruitment efforts to bring in new and diverse participants
- Developing educational models and curricula to help applicants better understand how to navigate prize competitions and other opportunities within DOE
- Offering technical assistance and focused support to prize competitors
- Assisting in metrics tracking and reporting across funding applications
- Hosting events and meetings to advance program implementation goals
- And more.

Power Connectors' strong engagement in recruitment efforts helped yield 202 submissions for the Inclusive Energy Innovation Prize, 374 submissions for the Buildings Upgrade Prize, and 189 submissions for Solar Prize Round 7.



POWER CONNECTORS IN THE SPOTLIGHT

CLEAN ENERGY BUSINESS NETWORK

The Clean Energy Business Network has served as a Power Connector since 2020, supporting competitors through technical support, training, and other resources. In 2022 alone, the Clean Energy Business Network worked one-on-one with more than 1,100 applicants.

“It has been incredibly rewarding to play even a small role in helping teams realize the full potential of their ideas and hard work. Every individual involved with the American-Made program is an agent of change. Together—collaborating as Power Connectors, Network members, DOE and NREL staff, and prize teams—we are driving the clean energy revolution.”

—Lynn Abramson, President,
Clean Energy Business Network

ADL VENTURES

ADL Ventures has served as a Power Connector on more than 20 prizes in the last three years.

“The ability to impact entire portfolios and sectors of companies quickly through targeted outreach and support remains a unique opportunity to bring rapid change and disruption to industry innovations, often before corporations and investors are ready and willing. American-Made is a critical bridge to unlocking much larger support for U.S.-based climate startups at scale.”

—Chris Richardson, Partner, ADL Ventures

POWER CONNECTORS IN THE SPOTLIGHT

UNIVERSITY OF ARIZONA CENTER FOR INNOVATION (UACI)

UACI became part of the American-Made Network five years ago and now serves as a Power Connector.

“Throughout our time within the Network, we have had the opportunity to work directly with clean energy revolutionaries and innovators. Our team had the opportunity to support Solar Prize Round 4 winner the r&d lab not only in their prize journey, but also in their company, as they are now a graduate of our program. The American-Made Network has allowed us to tap into the clean energy revolution by supporting innovators in this space across the nation.”

—Casey Carrillo, Director of Strategic Partnerships,
University of Arizona Center for Innovation

PAYING IT FORWARD HELPS ALUMNI AND COMPETITORS

Several Solar Prize alumni have leveraged their positive prize experiences to help subsequent competitors. The r&d lab, which won Round 4, is a Network member working to help other competitors find their path to success in solar prizes. **The r&d lab** is also leveraging the Network to find opportunities to grow and expand their business. In addition, Network member **Solar Inventions**, a Round 1 winner, took their winning photovoltaic cell design and shared it with Round 2 finalist **Mirimantis**, which helped them bring life to their decorative designs for solar panels.



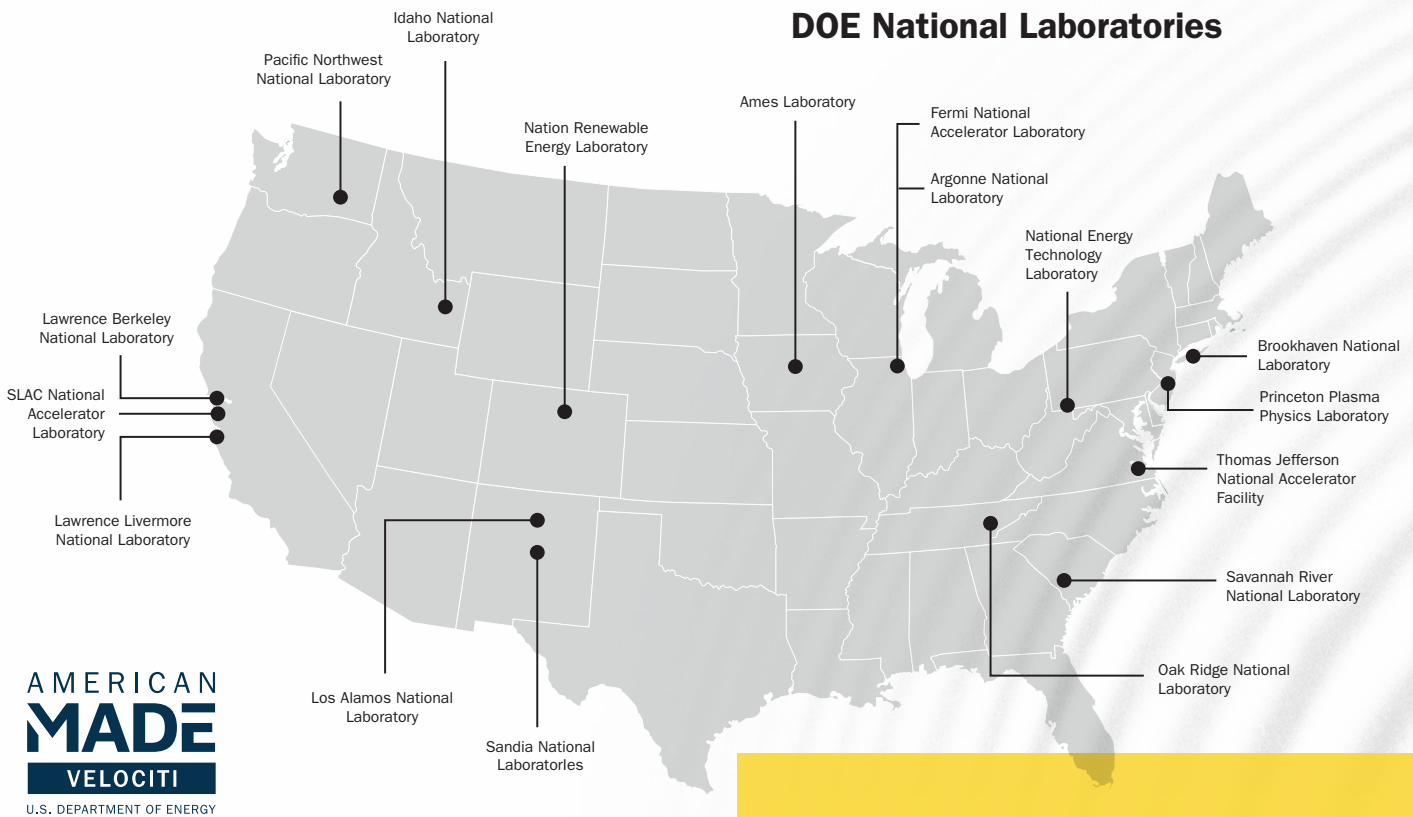
*To learn more about our Network, visit
www.americanmadechallenges.org/network.*



Vouchers

VOUCHER PROGRAM GAINS VELOCITY

Vouchers To Enable Laboratory and Organizational Collaboration for Innovation and Technology Improvements, or VELOCITI, is a cross-laboratory program led by NREL in partnership with other national labs.



Technical vouchers increase access to the treasure trove of world-class expertise and resources in DOE's national laboratories.

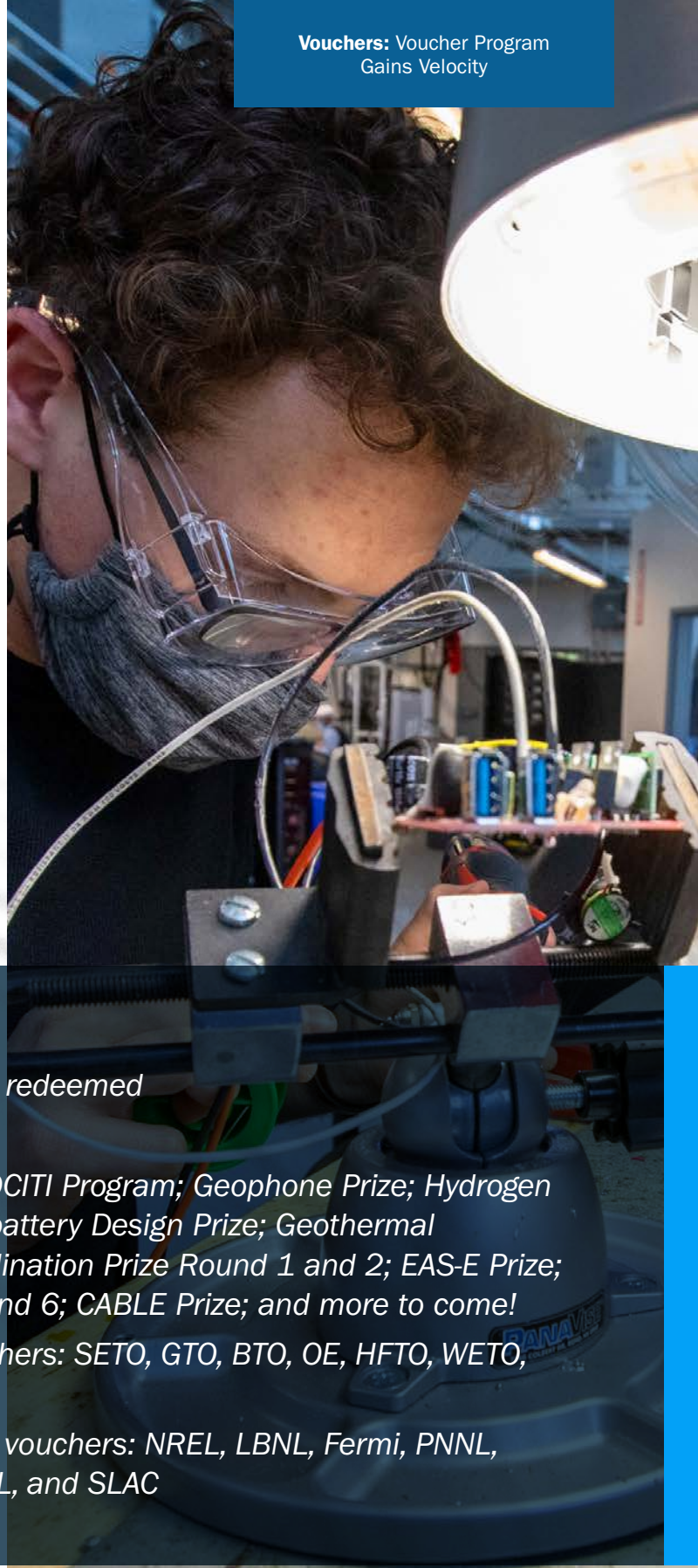
“For the work NREL proposes, we have the luxury of posing the question we propose to answer. With the voucher program, companies come to us with questions we might not have anticipated, and that expands our thinking.”

—Lance Wheeler, NREL Researcher

The program paves the way for prize competitors and other innovators and entrepreneurs to access the expertise of researchers and state-of-the-art equipment and facilities at 17 DOE national laboratories. Eight national labs are currently working with VELOCITI, and more than 160 vouchers have been supported to date.

The vouchers, which have been awarded to phase winners of everything from the Solar Prize to the Geothermal Geophone Prize to the FLOWIN Prize, can be redeemed for support from lab experts, use of the lab's validation and testing facilities, and more.

That connection to national labs can be invaluable to entrepreneurs who would not otherwise have the means to validate their game-changing renewable energy innovations, much less set them on the path to commercialization.



Vouchers at a Glance

- *160+ vouchers available and/or redeemed*
- *Total vouchers available: \$20M*
- *Prizes with vouchers: SETO VELOCITI Program; Geophone Prize; Hydrogen Shot Prize; FLOWIN Prize; Microbattery Design Prize; Geothermal Manufacturing Prize; Solar Desalination Prize Round 1 and 2; EAS-E Prize; Solar Prize Round 1, 2, 3, 4, 5, and 6; CABLE Prize; and more to come!*
- *DOE offices that have used vouchers: SETO, GTO, BTO, OE, HFTO, WETO, and AMMTO*
- *National labs that have received vouchers: NREL, LBNL, Fermi, PNNL, SNL, Ames, ANL, LANL, ORNL, INL, and SLAC*



To learn more about vouchers, visit <https://stage.labpartnering.org/vouchers> or email velociti@nrel.gov.

TECHNICAL ASSISTANCE ACCELERATES SUCCESS

American-Made offers a variety of technical assistance through each phase of prize competition. This includes direct technical assistance to advance an idea, specific training, and technical voucher support that connects teams to researchers at the national labs. Here are some examples.

NANOSPRAY: SOLAR PRIZE ROUND 4 FINALIST

NanoSpray formulates conductive solutions that are especially well-suited to making electrical contact to cadmium telluride (CdTe) solar cells, which can lower production costs and improve cell efficiencies of U.S.-produced CdTe panels.

NanoSpray worked with NREL to test their product using the lab's capabilities. Through cell and module-scale testing, the collaboration with NREL provided NanoSpray with high-efficiency proof-of-concept CdTe devices for demonstration in the prize, allowing them to pursue further funding opportunities and continue their collaboration with NREL.

ORIGAMI SOLAR: SOLAR PRIZE ROUND 5 HARDWARE TRACK WINNER

Origami Solar developed a new way of creating steel photovoltaic module frames that are stronger than their aluminum counterparts while reducing environmental impact and costs. They credit deep engagement from the American-Made Network with bringing rigor to their technology and business model. In addition, the vouchers they won allowed them to work with Sandia National Laboratories to field test their frames in heavy snow load conditions and determine their ability to shed snow.

In just one year since winning the prize, Origami has built up their supply chain, is currently testing with multiple customers and third-party labs, and plans to be delivering product within the year.



Events

EVENTS BUILD OPPORTUNITIES

American-Made attends and hosts a variety of virtual and in-person events each year to reach new audiences, build relationships, bring prizes together to raise the profile of winners, and offer valuable opportunities for competitors to make industry connections.

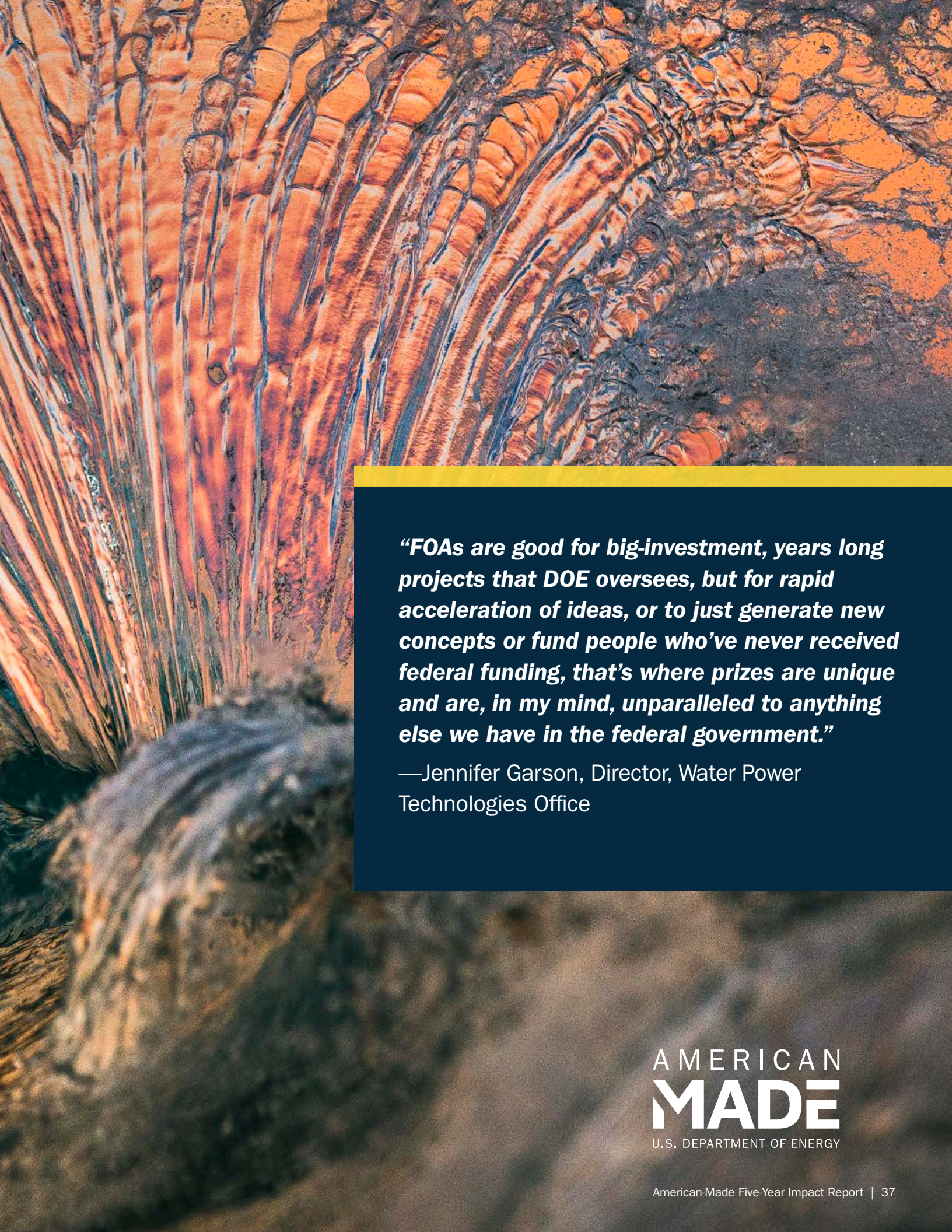




2023 marked the fourth RE+ conference (formerly SPI) where American-Made worked closely with organizers and DOE to deliver valuable programming, announce winners, and build industry connections.

- Four SPI/RE+ conferences
- More than 35 pitch and/or Demo Day events
- Two American-Made Earth Day events
- Six events featuring the Secretary of Energy
- More than 10 teaming events to connect competitors with new resources
- Hundreds of informational and recruitment webinars.





“FOAs are good for big-investment, years long projects that DOE oversees, but for rapid acceleration of ideas, or to just generate new concepts or fund people who’ve never received federal funding, that’s where prizes are unique and are, in my mind, unparalleled to anything else we have in the federal government.”

—Jennifer Garson, Director, Water Power Technologies Office

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DOE *Impacts*

PROGRAM AND PRIZES STIMULATE DOE PROGRESS

The American-Made program is the result of years of DOE testing new and different ways to seed innovative ideas and speed progress. It's now a flexible, agile, accessible model that can spur community and technology development and serve as a pipeline to other DOE programs and funding opportunities. And it has another key benefit—helping DOE speak with one voice as an energy commercialization and innovation.

In combination with other federal funding, DOE can utilize the American-Made program to stimulate change and progress where it's needed—all while reaching innovators, entrepreneurs, and communities who need a more accessible pathway to commercialization.

Another key impact of American-Made toward DOE goals: executing on the White House's Justice40 Initiative. Justice40 principles are now interwoven throughout the American-Made program, built into prize design, and included in the ethos of each of our administrators and support staff. The program also shares DOE's goals of preserving our planet for the next generation, building the clean energy workforce of the future, and implementing inclusive, impactful programming that places funding in the hands of deserving innovators and communities faster than ever.





American-Made Impacts to DOE

- *A front door to the DOE innovation ecosystem*
- *Fast, flexible, creative government funding model that combines prizes and valuable support*
- *Accelerated cycles of innovation, entrepreneurship, and community building*
- *Direct connection to follow-on funding and other DOE programs*
- *Potential to leverage Network members for other government programs and initiatives*
- *New levels of access to DOE's national laboratories*
- *Unprecedented cross-agency collaboration and communities of practice.*

DOE OFFICES JOIN TOGETHER, **SHARE ACHIEVEMENTS**

The program has delivered one more extraordinary benefit—unprecedented levels of collaboration among DOE offices. What began with one DOE office has now spread to more than 20 offices and other federal agencies across 70+ prizes. Many offices now meet quarterly in Community of Practice meetings to discuss best practices and approaches for successful prize programs. The result is more crosscutting prizes funded and supported by multiple offices, along with creative bonus prizes and fully cosponsored prize programs.

DOE offices gathered for the first time to showcase important successes, including new prize launches, winner announcements, and other significant milestone achievements, at the 2022 and 2023 American-Made Earth Day celebrations. For both events, American-Made administrators were joined by high-ranking executives from DOE, the White House, and multiple technology offices.

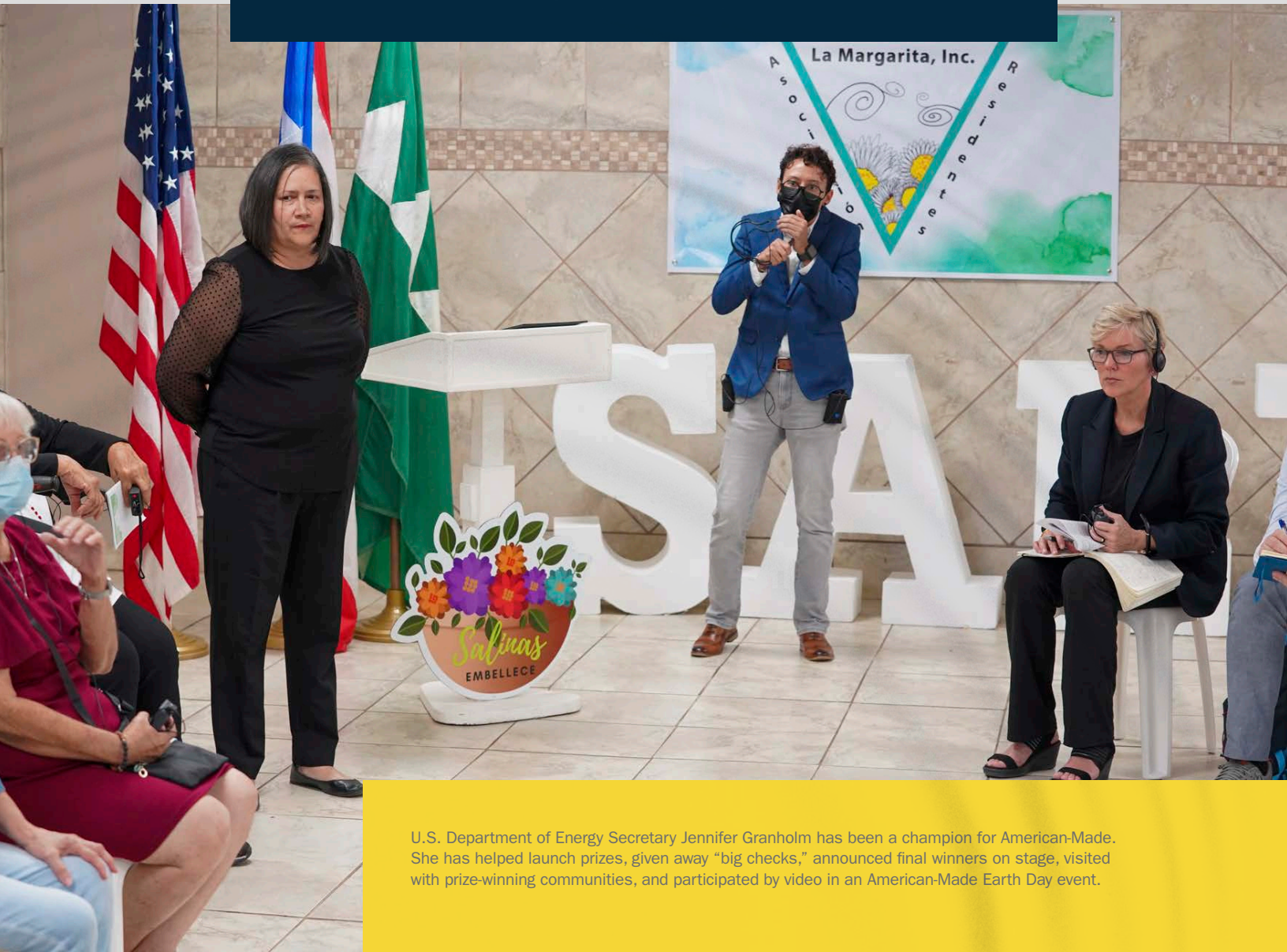
DOE OFFICES LEADING INNOVATION THROUGH PRIZE PROGRAMS (2018–2023)

AMMTO, BETO, BTO,
CESER, EERE, FECM,
GDO, GTO, HFTO,
Integrated Strategies,
NE, OCED, OE, OTT,
SETO, SCEP, VTO, WETO,
and WPTO.



“The American-Made program is designed to empower American ingenuity, and it offers financial support for innovators like many of you with big ideas that can move the global clean energy market and make a big difference in the climate challenge.”

—Energy Secretary Jennifer Granholm



U.S. Department of Energy Secretary Jennifer Granholm has been a champion for American-Made. She has helped launch prizes, given away “big checks,” announced final winners on stage, visited with prize-winning communities, and participated by video in an American-Made Earth Day event.

What's Next

AMERICAN-MADE LOOKS TO THE FUTURE

The unique challenges we face require thoughtful reflection, ingenuity, and speed. Looking ahead, American-Made will seek opportunities to invite scores of innovators, creators, challengers, and communities to join the clean energy revolution—more people and more ideas with the potential to develop, de-risk, and transform energy.



Increasing the program's focus on people will help reach more Americans with diverse backgrounds and perspectives. Maintaining a focus on technology, innovation, and entrepreneurship will ensure that big ideas, skills, and solutions come to light.

Nurturing and communicating these big ideas requires big planning. In the near future, DOE and other stakeholders will take part in the following:

Develop New American-Made Challenges

- Leverage new outreach strategies and design new prizes to reach more diverse pools of talent, including rural, remote, and underserved communities and students, and ensure that DOE is engaging promising teams from across the country.

Increase American-Made Network Engagement

- Focus on encouraging prize alumni and investors to join the Network and provide specific support for prize competitors and other clean energy entrepreneurs outside the prize program.

Increase Voucher Access

- Increase technical assistance and encourage more voucher engagement with DOE national laboratories to increase access to these world-class facilities and researchers.

Establish a Workforce Development Component

- Many American-Made prizes have long spurred and mentored new businesses, but workforce development will become more prominent in the program as prizes increasingly focus on training programs to support the communities, students, and entrepreneurs of the future.

Together, American-Made Challenges will continue opening the world of innovation, giving a voice to the people seeking their place in the clean energy revolution. We'll invite an increasingly diverse group of people to ask and answer critical questions and to present and support big ideas in their communities. And we'll help the best ideas overcome the risks and pitfalls to commercialization through delivering right-timed expertise and resources.

Through our innovative model—prizes, connections, training, teaming, and mentoring—American-Made will continue building an innovation engine to supercharge and empower the nation to lead the clean energy revolution.

But of course, we'll need new partnerships and sponsorships to help us along the way and expand our reach. Will you join us?

Share your ideas for how we can improve the American-Made program by emailing americanmade@nrel.gov.

Thank You

DOE OFFICES MAKE AMERICAN-MADE POSSIBLE

AMERICAN-MADE PRIZES (2018–2023)

Prize Name	DOE Office	Launch Year (Calendar Year)	Total Amount of Cash Prizes Available
Solar Prize Round 1	SETO	2018	\$ 3,000,000
FAST Prize	WPTO	2019	\$300,000
Individuals Taking Energy Action in Manufacturing (ITEAM) Prize	AMO	2019	\$ 75,000
Lithium-Ion Battery Recycling Prize	VTO	2019	\$ 9,900,000
Ocean Observing Prize	WPTO	2019	\$ 2,400,000
Solar Desalination Prize Round 1	SETO	2019	\$ 2,950,000
Solar Prize Round 2	SETO	2019	\$ 3,000,000
Solar Prize Round 3	SETO	2019	\$ 3,000,000
Waves to Water Prize	WPTO	2019	\$ 3,300,000
EPIC Prize Round 1	OTT	2020	\$ 1,000,000
E-ROBOT Prize	BTO	2020	\$ 4,000,000
Fish Protection Prize	WPTO	2020	\$400,000
Geothermal Manufacturing Prize	GTO	2020	\$ 3,250,000
Groundbreaking Hydro Prize	WPTO	2020	\$300,000
Innovations in Advanced Manufacturing for Hydropower (I AM Hydro) Prize	WPTO	2020	\$175,000
Solar Prize Round 4	SETO	2020	\$ 3,000,000
Water Resource Recovery Prize	AMO	2020	\$ 1,000,000
CABLE Prize	AMMTO	2021	\$ 3,650,000
EnergyTech University Prize Round 1	OTT	2021	\$250,000

Prize Name	DOE Office	Launch Year (Calendar Year)	Total Amount of Cash Prizes Available
Geothermal Lithium Prize	GTO	2021	\$ 4,000,000
Hydrogen Business Case Prize	HFTO	2021	\$240,000
Inclusive Energy Innovation Prize	Multiple	2021	\$ 5,100,000
L-Prize	BTO	2021	\$ 12,200,000
Perovskite Startup Prize	SETO	2021	\$ 2,700,000
Solar Desalination Prize Round 2	SETO	2021	\$ 7,850,000
Solar Forecasting Prize	SETO	2021	\$375,000
Solar Prize Round 5 (Hardware and Software)	SETO	2021	\$ 4,900,000
Community Clean Energy Coalition Prize	Multiple	2022	\$ 2,135,000
Digitizing Utilities Prize Round 1	OE	2022	\$ 1,100,000
EASE Prize	BTO	2022	\$ 2,005,000
Energy CLASS Prize	SCEP	2022	\$ 3,750,000
Energy Storage Innovations Prize	OE	2022	\$300,000
EnergyTech University Prize Round 2	OTT	2022	\$370,000
EPIC Prize Round 2	OTT	2022	\$ 4,665,500
FLOWIN Prize	WETO	2022	\$ 5,850,000
Geophone Prize	GTO	2022	\$ 2,700,000
Hydrogen Shot Incubator Prize	HFTO	2022	\$600,000
Hydropower Operations Optimization Prize	WPTO	2022	\$ 75,000
Inclusive Solar Outreach Awards	SETO	2022	non-cash



Prize Name	DOE Office	Launch Year (Calendar Year)	Total Amount of Cash Prizes Available
Solar Prize Round 6	SETO	2022	\$ 3,200,000
SolarAPP+ Prize	SETO	2022	\$ 1,000,000
Sunny Awards Round 1	SETO	2022	\$100,000
Advanced Cybersecurity Technology Prize	CESER	2023	\$ 7,250,000
Algae Prize 2023–2025	BETO	2023	\$215,000
Buildings Upgrade Prize	BTO	2023	\$ 22,000,000
Carbon Management Collegiate Competition	FECM	2023	\$ 25,000
Collegiate Wind Competition	WETO	2023	\$280,000
Community Energy Innovation Prize	EERE	2023	\$ 7,490,000
Community Power Accelerator Prize Round 1	SETO	2023	\$ 10,000,000
Community Power Accelerator Prize Round 2	SETO	2023	\$ 10,000,000
Direct Air Capture (DAC) Carbon Dioxide Removal (CDR) Purchase Pilot Prize Phase 1	FECM	2023	\$ 35,000,000
DAC EPIC Prize	FECM	2023	\$ 3,800,000
DAC Pre-Commercial Tech Prize	FECM	2023	\$ 3,200,000
Energizing Rural Communities Prize	OCED	2023	\$ 15,000,000
EnergyTech University Prize Round 3	OTT	2023	\$550,000
EPIC Prize Round 3	OTT	2023	\$ 3,220,000

Prize Name	DOE Office	Launch Year (Calendar Year)	Total Amount of Cash Prizes Available
Geothermal Collegiate Competition	GTO	2023	\$ 10,000
HBCU Clean Energy Education Prize	EERE	2023	\$ 7,750,000
Heliostat Prize	SETO	2023	\$ 3,000,000
High-Voltage Direct Current (HVDC) Prize	OE	2023	\$200,000
Hydropower Collegiate Competition	WPTO	2023	\$325,000
Innovating Distributed Embedded Energy Prize	WPTO	2023	\$ 2,300,000
Manufacture of Advanced Key Energy Infrastructure Technologies (MAKE IT) Prize	OTT	2023	\$ 29,500,000
Marine Energy Collegiate Competition	WPTO	2023	\$420,000
Microbattery Design Prize	AMMTO	2023	\$ 1,250,000
Net Load Forecasting Prize	SETO	2023	\$600,000
Solar Ambassador Prize	GDO	2023	\$ 3,850,000
Solar Data Bounty Prize	SETO	2023	\$ 1,415,000
Solar Prize Round 7	SETO	2023	\$ 3,561,000
Sunny Awards Round 2	SETO	2023	\$200,000
Technology Commercialization Fund (TCF) Lab Match	OTT	2023	\$620,000
Water Photo Contest	WPTO	2023	\$ 31,500
Wind Turbine Materials Recycling Prize	WETO	2023	\$ 4,500,000



Be Extraordinary

AMERICAN-MADE MANIFESTO

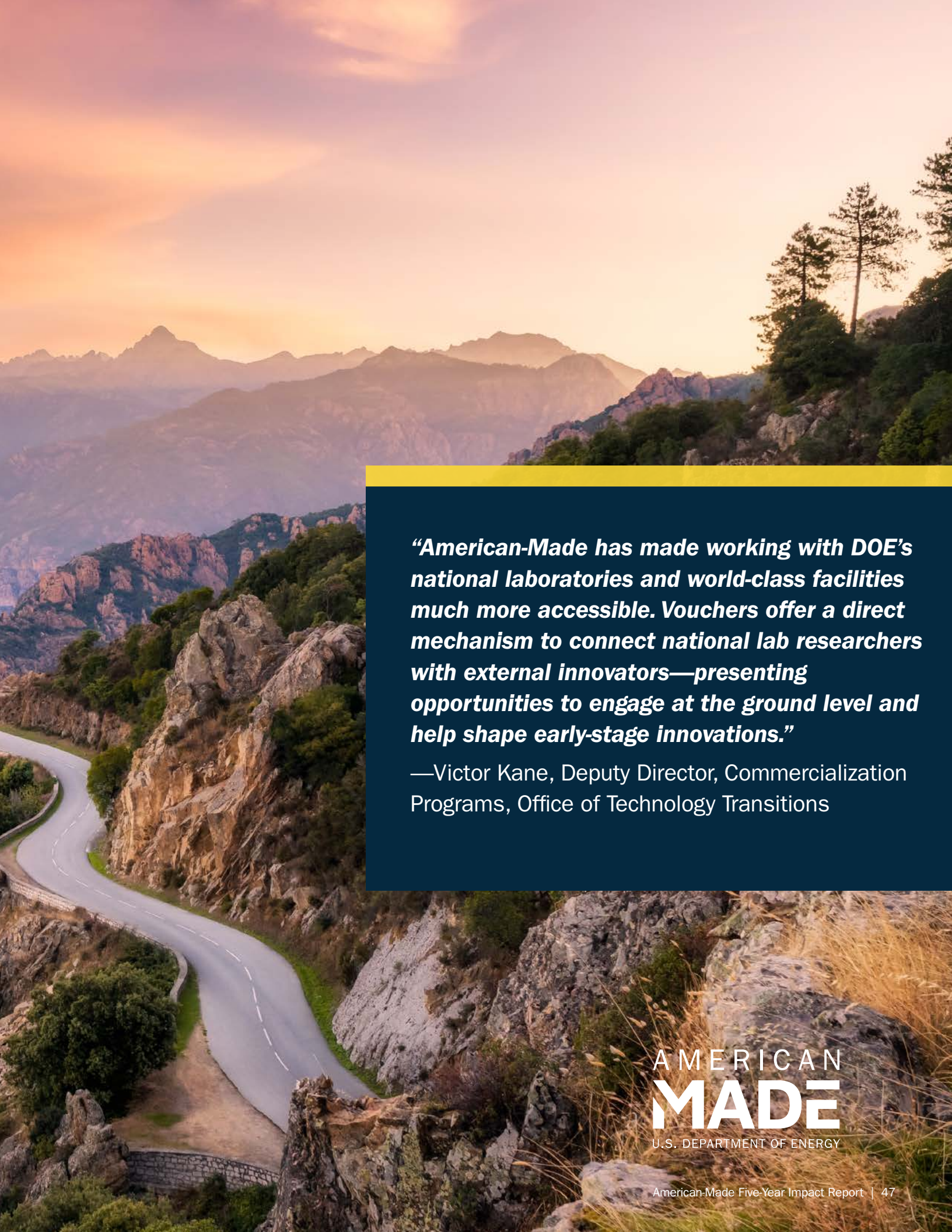
Here's to the ones who make extraordinary choices every day. To show up and give it our all. To work hard, make things work, and make it through. To dream things that haven't been. To face what we must. To learn all we can. To overcome unknowns, together.

We are all kinds of different. But that is our magic. We believe in better. In the power of all of us. In realizing our personal and collective potential for an energy future where everyone thrives.

We believe we can change things. We already do—in incremental and often indelible ways, every day. We know what we're made of. Equal parts grit, grace, and genius. And because we are bold enough to believe we can change the world, we will.

Join the Department of Energy and a new innovation engine to supercharge extraordinary, bold new ideas. This is our time.





“American-Made has made working with DOE’s national laboratories and world-class facilities much more accessible. Vouchers offer a direct mechanism to connect national lab researchers with external innovators—presenting opportunities to engage at the ground level and help shape early-stage innovations.”

—Victor Kane, Deputy Director, Commercialization Programs, Office of Technology Transitions

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Five-Year
Impact
Report