

American-Made Solar Prize: Gearing Up to Win

8.21.21





AGENDA

CEBN Overview and Resources for Competitors

Lynn Abramson, President, Clean Energy Business Network

American-Made Solar Prize 5 – Contest Structure and Key Details

*Rebecca Bennett, Project Lead, American-Made Challenges,
National Renewable Energy Laboratory*

Case Study from Solar Prize Round 4: NanoSpray

Jason Lipton, COO, NanoSpray



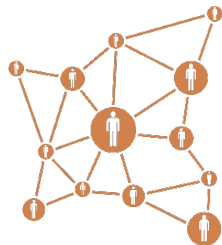
the small business voice for the clean energy economy



Policy
Support



Market &
Technology
Education



Business
Development
Assistance

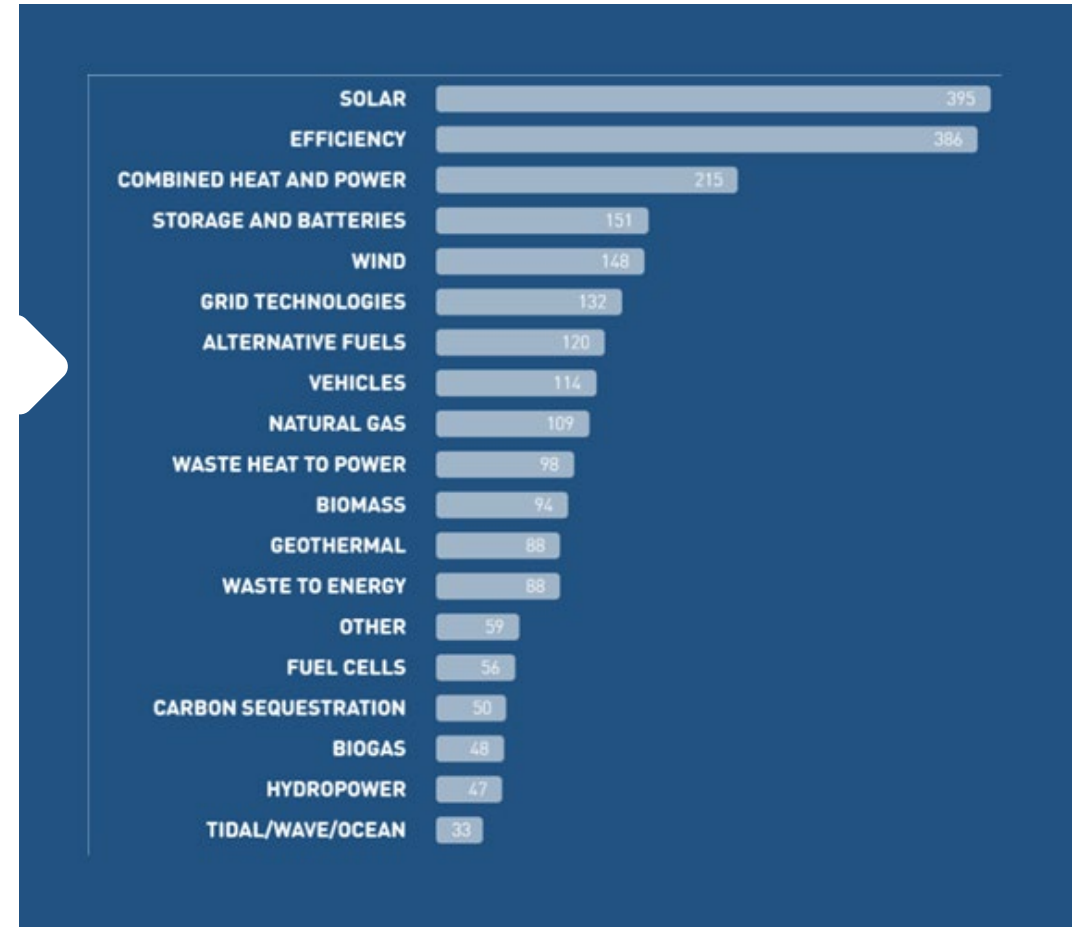
OUR MISSION

OUR REACH

5,500+ small and midsize business leaders
across 50 states



Diverse technologies





Event Management



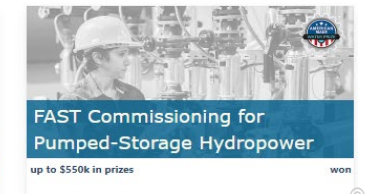
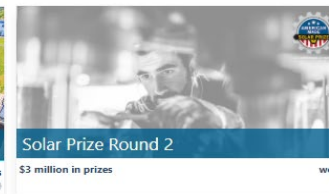
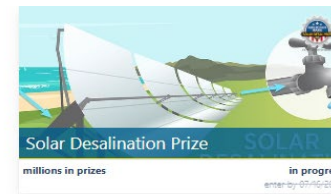
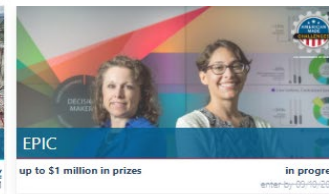
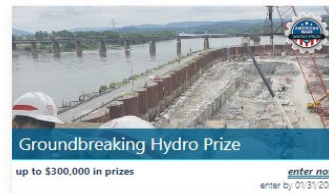
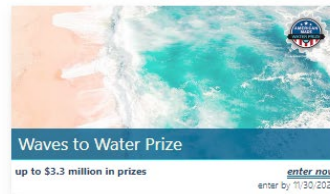
Outreach



Team Support



Network/Partnerships



CEBN RESOURCES FOR AMERICAN-MADE SOLAR PRIZE COMPETITORS

Clean Energy Funding Database

An aggregated list of
funding opportunities
from the federal
government

MEMBERS ONLY

ELIGIBLE TECHNOLOGIES

Select

TECHNOLOGY STAGE

Early-Stage Technology R&D

TYPE OF FUNDING

Select

SEARCH

Prize

ment or utility program

mentorship/incubator/accelerator

technical assistance

Technologies available for licensing

Other databases

aware of any.

COVID-19 RELIEF

American-Made Challenges: Solar Prize 4

Deadline: October 08, 2020

Approximate funding: \$3,000,000



ROUND 5 Informational Webinar

Disclaimer: All details needed to participate in the American-Made Solar Prize program are provided in the Official Rules document online. The information provided in this presentation is not intended to amend, modify or substitute details provided in the Official Rules. Information presented should be used in conjunction with the Official Rules. In addition, any reference in presentation to any specific commercial product, process, or service, or the use of any trade, firm or corporation name is for the information and convenience of the public, and does not constitute endorsement, recommendation, or preference by the U.S. Department of Energy. Visit americanmadechallenges.org

Agenda

- Solar Prize Overview
- Eligibility
- Important Dates
- The American-Made Network

The Solar Prize is Back!



Same prize you know and love

But There's More!



With two tracks—Hardware and Software



More winners and more cash prizes



**Submission Deadline:
OCTOBER 5**



ENERGIZE

American ingenuity in
solar **innovation**.



EMPOWER

innovators to rapidly
transform **ideas into**
prototypes.



ENGAGE

a network of labs,
facilities, and partners to
prepare for market.

PURPOSE

WHAT IS THE SOLAR PRIZE?



**Multi-million-dollar prize
competition**

Ready!, Set!, and Go! Contests



**National Network of
support organizations**

American-Made Network

ENERGIZE INNOVATION

IN U.S. SOLAR TECHNOLOGIES



U.S. DEPARTMENT OF ENERGY

Two competitive tracks



Hardware Track

\$3 million prize
focused on solar
hardware components



Software Track

\$1.6 million prize
seeking new solar
software technology

ROUND **5**

SUBMIT BY OCT 5 americanmadechallenges.org/solarprize/round5

WHICH TRACK IS RIGHT FOR YOU?



ROUND **5**

U.S. DEPARTMENT OF ENERGY



Hardware Track

Focus on solar hardware components

- **\$3 million** in cash prizes
- **\$900,000** in support vouchers



3 Sequential Contests

READY! → SET! → GO!

20 teams
\$50,000 each

10 teams
\$100,000 each

2 teams
\$500,000 each



Software Track

Focus on solar software technologies

- **\$1.6 million** in cash prizes
- **\$100,000** in support vouchers



3 Sequential Contests

READY! → SET! → GO!

20 teams
\$30,000 each

10 teams
\$60,000 each

2 teams
\$200,000 each

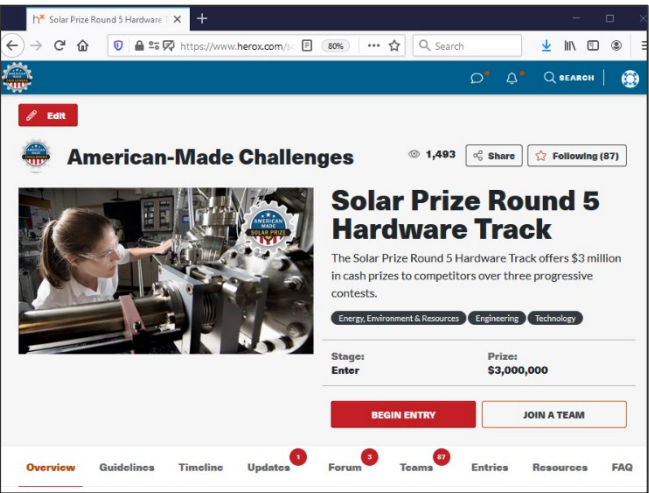


American-Made Network



2 Different Tracks = 2 Different Submission Paths

Hardware Track



Official Rules

American-Made Solar Prize Round 5 Hardware Track

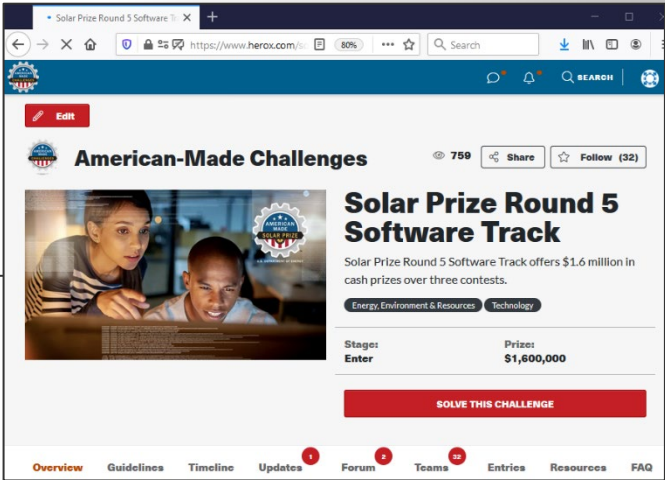
The American-Made Solar Prize Round 5 Hardware Track is designed to accelerate and sustain American solar innovation through a series of contests, leveraging a diverse and powerful support network of national laboratories, energy incubators, and other resources across the United States.

These rules are effective June 10, 2021, for Round 5 of the Solar Prize Hardware Track

Note: These rules are different from the rules for previous Solar Prize rounds. Round 5 has two tracks that focus separately on hardware and software components. Each track (Hardware and Software) has its own rules document. Please read these rules to ensure you have the most up-to-date information and are applying to the correct program.

<https://www.herox.com/solarprizeR5hardware>

Software Track



Official Rules

American-Made Solar Prize Round 5 Software Track

The American-Made Solar Prize Round 5 Software Track is designed to accelerate and sustain American solar innovation through a series of contests, leveraging a diverse and powerful support network of national laboratories, energy incubators, and other resources across the United States.

These rules are effective June 10, 2021, for Round 5 of the Solar Prize Software Track.

Note: These rules are different from the rules for previous Solar Prize rounds. Round 5 has two tracks that focus separately on hardware and software components. Each track (Hardware and Software) has its own rules document. Please read these rules to ensure you have the most up-to-date information and are applying to the correct program.

<https://www.herox.com/solarprizeR5software>

Prize Contests

Hardware Track

Make a plan to innovate
20 winners
\$50K cash each

Create a proof-of-concept
10 winners
\$100K cash + \$75K voucher each

Build a prototype & find pilot partner
2 winners
\$500K cash + \$75K voucher each

Ready!

Set!

Go!

Software Track

New software idea
20 winners
\$30K cash each

Minimum viable product
10 winners
\$60K cash each

Paying customers & business model
2 winners
\$200K cash + \$50K voucher each

Software Track – JEDI Contest

- JEDI = Justice, Equity, Diversity, and Inclusion
- \$300,000 additional prize funds
- Optional component
- Describe how solution addresses solar market barriers facing underserved communities and work to substantially advance their approach toward JEDI goals as they progress through the competition
- Additional funding available at each contest (Ready!, Set!, and Go!) for successful JEDI submissions
- Must win the Ready! Contest in order to win the JEDI Contest.



	JEDI Contest Winners	Prize*
Ready!	Up to 10 Ready! semifinalists	\$10,000 to \$30,000 in cash
Set!	Up to 5 Set! finalists	\$20,000 to \$60,000 in cash
Go!	Up to 1 Go! competitor	\$100,000 in cash
*Prizes are shown as funding ranges when they depend on the number of winners.		

WHO?

Any U.S.-based individual or team
with a desire to transform ideas
into impactful new solutions

CAN COMPETE



Scientists



Students &
Faculty



Entrepreneurs



Anyone with a
BIG! idea

Important Dates

Now!

Follow the Challenge on HeroX and start working!

October 5, 2020 at 5 p.m. ET

Last day to complete a submission for the Ready! Contest

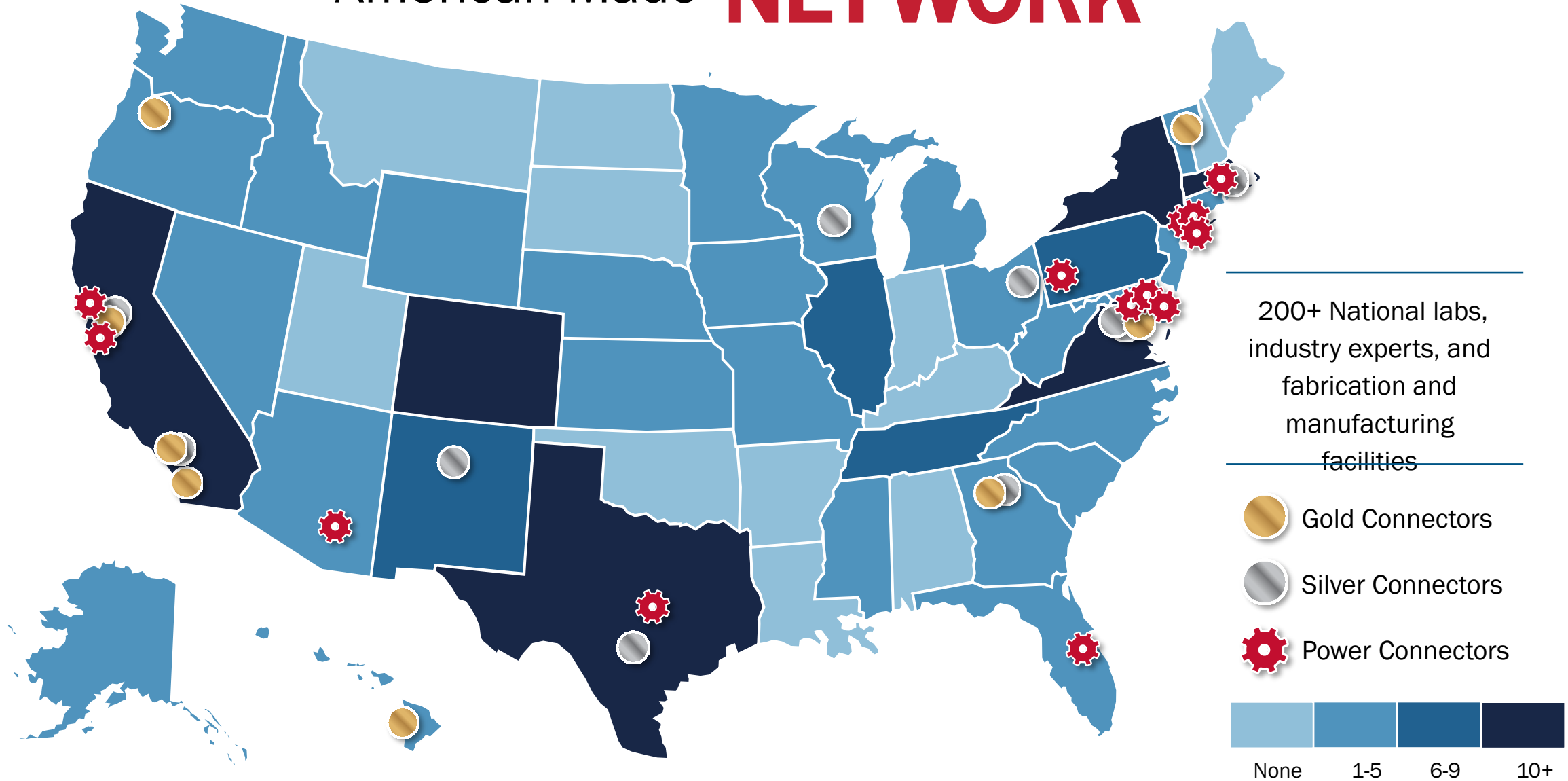


American-Made Network



U.S. DEPARTMENT OF ENERGY

American-Made **NETWORK**



How Do I Find and Connect with a Connector?

Through the Network Matching Tool (also where you generate your TAR)

<https://network.americanmadechallenges.org/>

American-Made Challenges

MapNetworkChallenges

K

Setup your profile

1

You are editing your own personal account. You are not editing another individual.

Name *

kimberlee.ott

Nickname

Please share a short biography.

Your exact address is never shared with other users nearby. If you do not wish to have geolocation enabled, you can turn it off.

Network

Browse the Network

Matches

Followers [0]

Following [0]

Sign In to start building your American-Made Network.

JM

Jay Murray

Connector

Idea Foundry

Capabilities: Business Development & Commercialization, Strategy, Science, Research and Development, Product Development, System Design, Technical Analysis, Legal, Insurance, and Marketing & Promotion, Testing and Validation

JM

Jackson May

Connector

Positive Deviancy

Capabilities: Business Development & Commercialization, Marketing & Promotion, Product Development, System Design, Technical Analysis, System Design

FK

Faith Kelnhofer


Connector

Greentown Labs

Capabilities: Marketing & Promotion, Strategy, Hardware Development, Manufacturing, Legal, Business Development & Commercialization, Product Development, Fabrication & Prototyping, Science, Research and Development, Funding & Investments, System Design, Software Development, Technical Analysis, Procurement of Raw Materials, Testing and Validation

Challenges

Sign In to see your Challenges.




Solar Prize Round 5 - Hardware Track

Enter by 8/31/2021

View Challenge

★ Featured Challenge



AMERICAN-MADE SOLAR PRIZE: U.S. DEPARTMENT OF ENERGY

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Want Even More Help? Reach Out to a Power Connector

Carnegie Mellon University

Wilton E. Scott Institute
for Energy Innovation



For the JEDI Contest specifically:



What's Next?

1. Follow the challenges on HeroX

<https://www.herox.com/solarprizeR5hardware>

<https://www.herox.com/solarprizeR5software>

1. Read the rules

https://americanmadechallenges.org/solarprize/docs/rules/r5/American-Made_Solar_Prize_Rules_Hardware.pdf

https://americanmadechallenges.org/solarprize/docs/rules/r5/American-Made_Solar_Prize_Rules_Software.pdf

2. Sign up in the Matching Tool and connect

<https://network.americanmadechallenges.org/>

1. Start innovating

2. Apply by **October 5.**



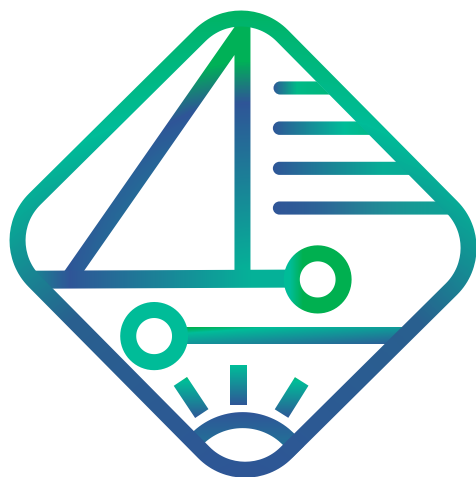
QUESTIONS?

Email: solar.prize@nrel.gov



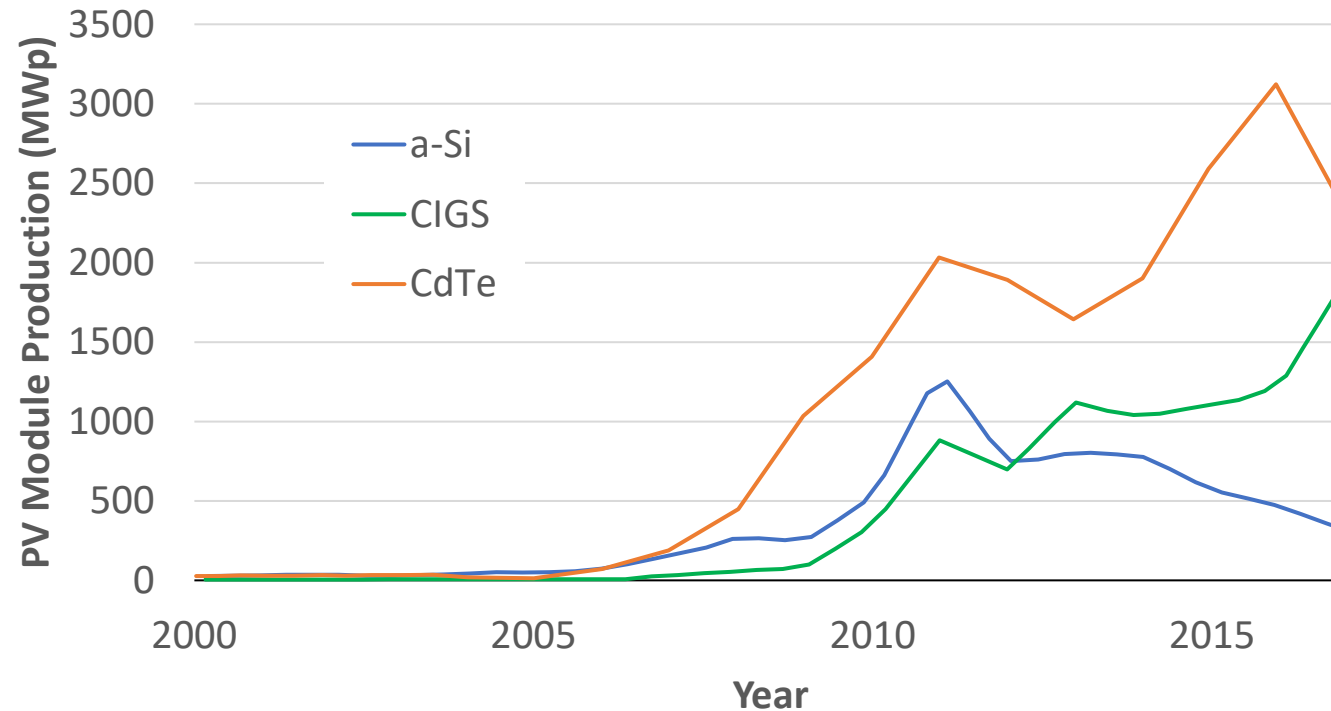
U.S. DEPARTMENT OF ENERGY

www.americanmadechallenges.org/solarprize



NANO
SPRAY

Thin-Film Module Production



CdTe PV is a rapidly growing sector of the PV market

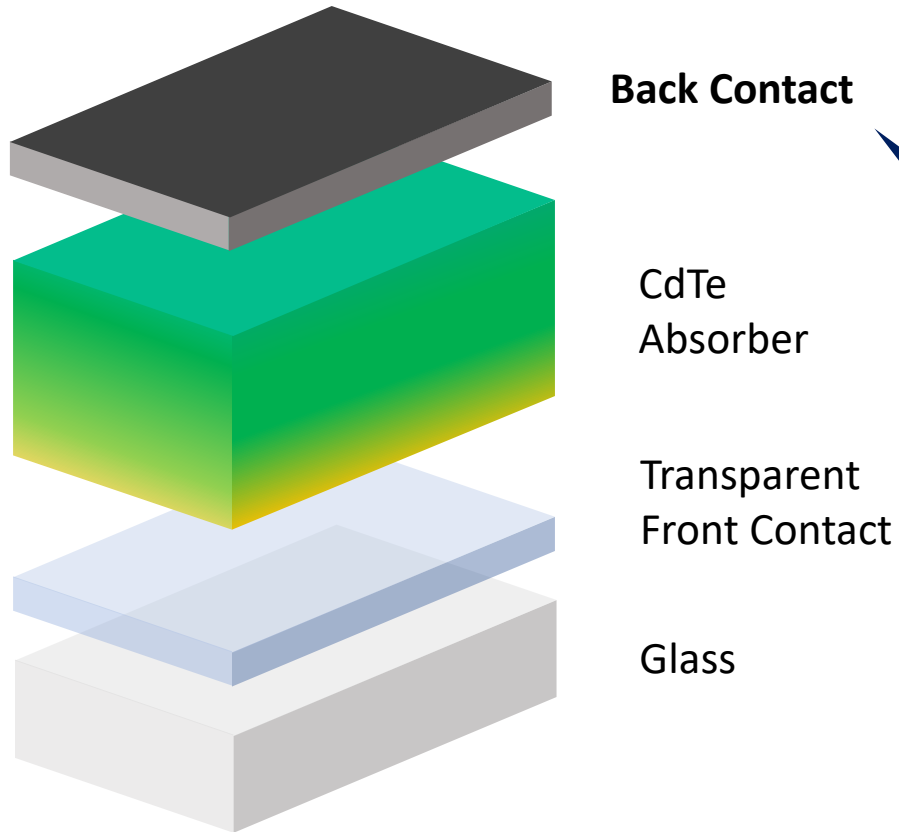


Cadmium
Telluride

>5% of global PV with growing domestic manufacturing



CdTe PV is held back by the performance of the *back contact*

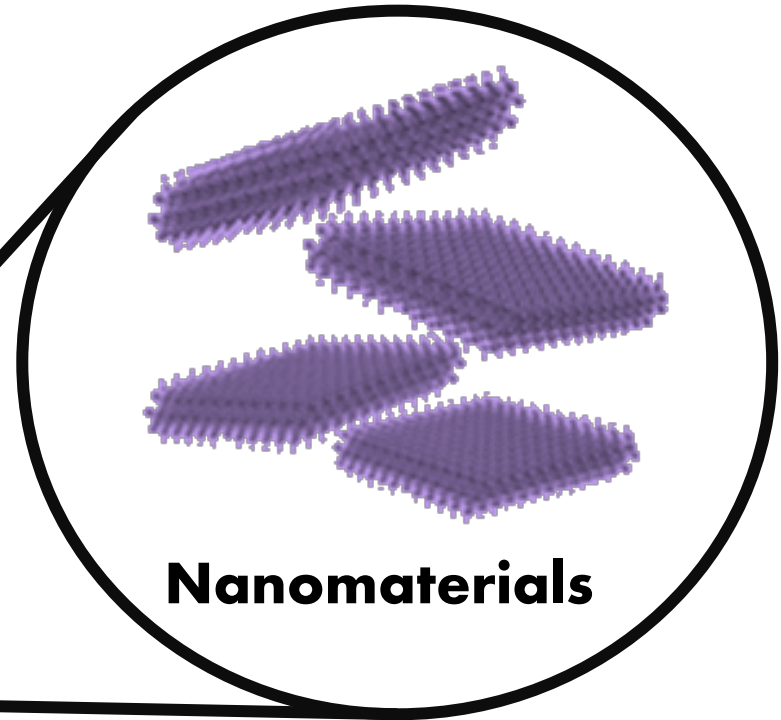
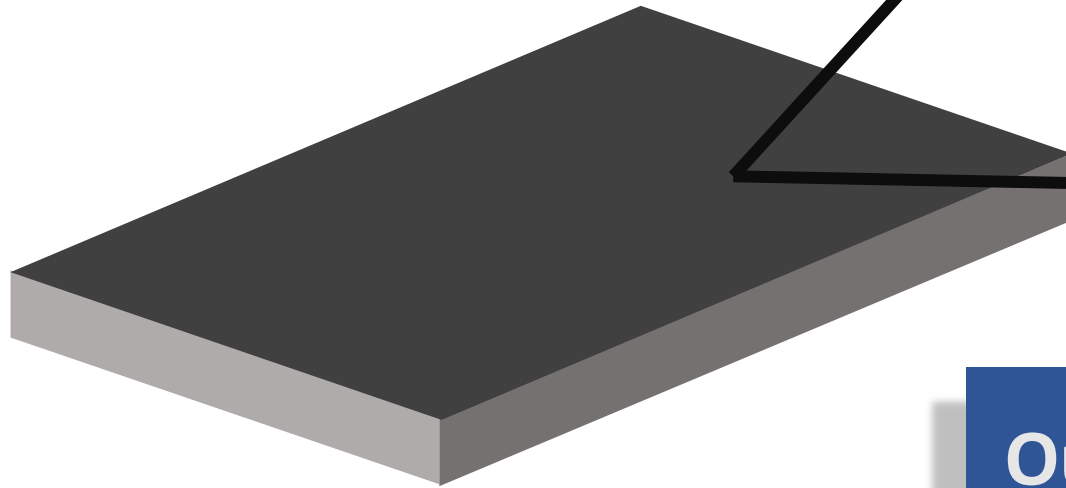


**Poor
Electricity
Collection**

**High cost of
Fabrication**

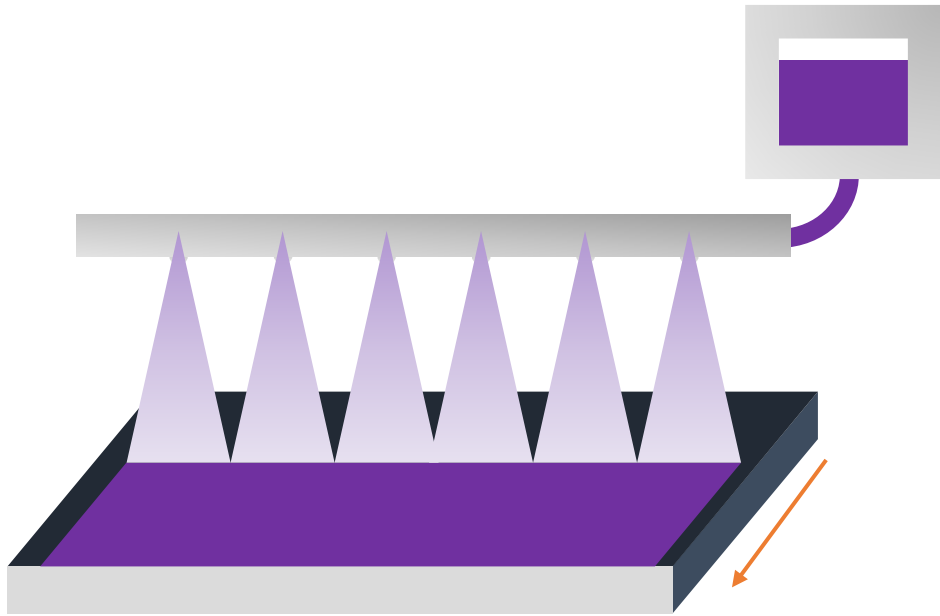
High electrical conductivity

Tunable electronic properties



Nanomaterials

Our solution: a back contact using specially engineered nanomaterials

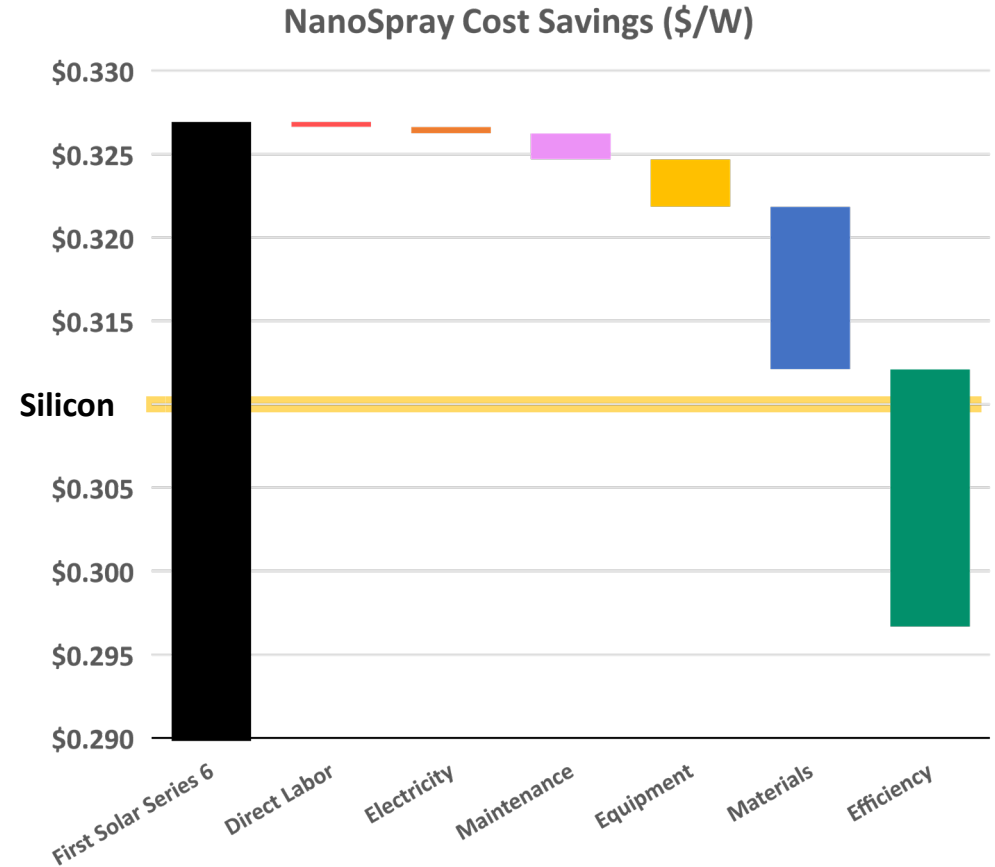
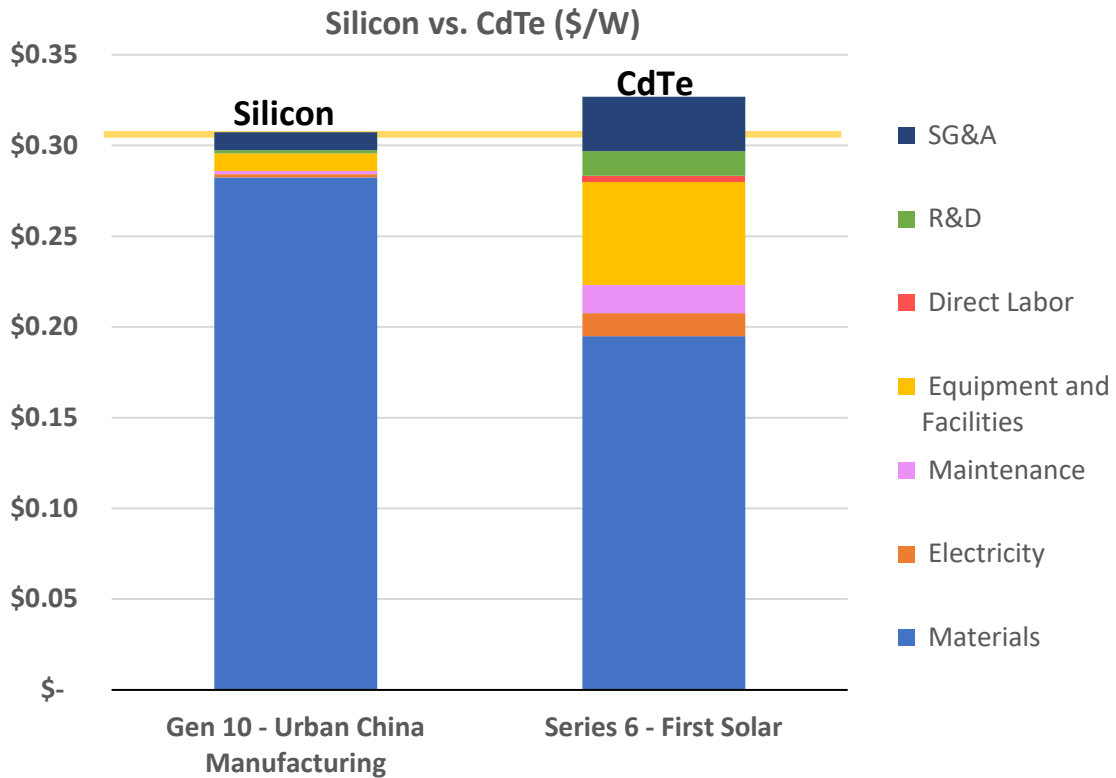


NanoSpray Coater



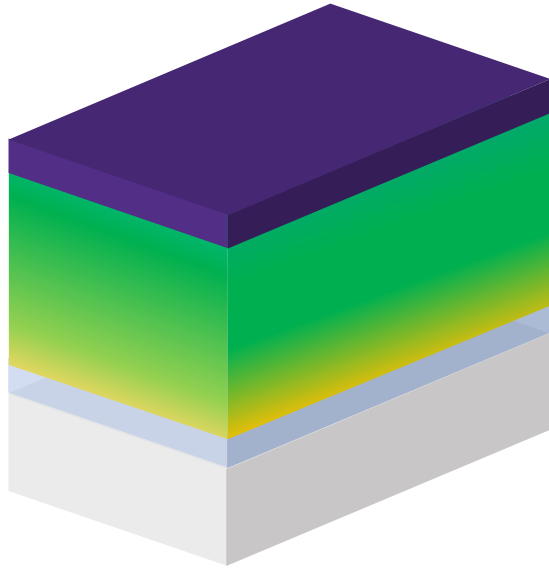
NanoSpray Inks

Our products: conductive inks for back contact production and the means to deposit them



\$300 Million in annual value to CdTe Manufacturers, bringing the cost of CdTe PV below that of silicon

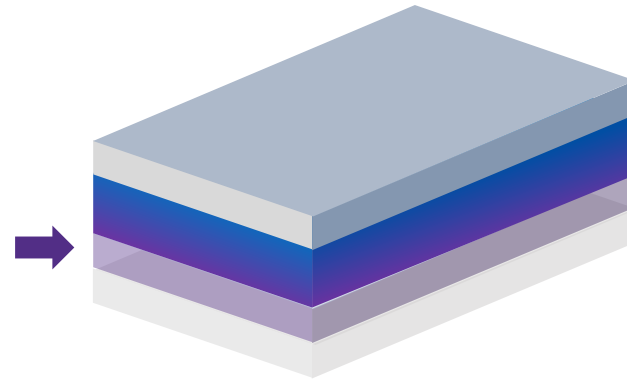
Beachhead Market



CdTe Back Contact

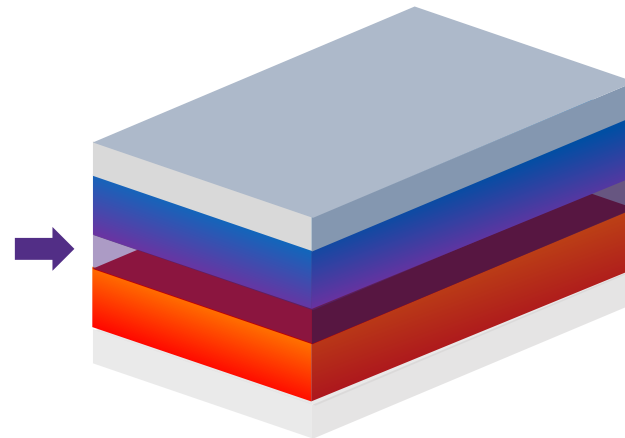
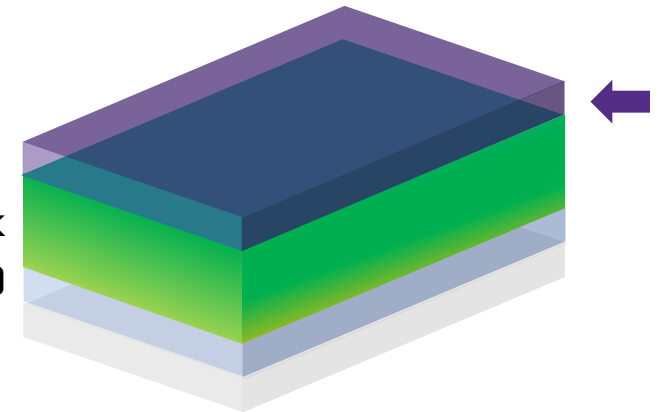
Future Markets

Silicon, Perovskites, CIGS



Transparent Front Contact

Semi-transparent Back Contact (Bifacial)



Tandem Recombination Junction

NanoSpray Leadership



CEO
Ed Sartor



COO
Jason Lipton



Co-founder
Jason Röhr

Technical and Business Advisors



Andre Taylor



Rebecca Silver



Al Compaan



Howard Branz



Steven Wood

Work completed in collaboration with:



THE UNIVERSITY OF ARIZONA
**CENTER FOR
INNOVATION**

