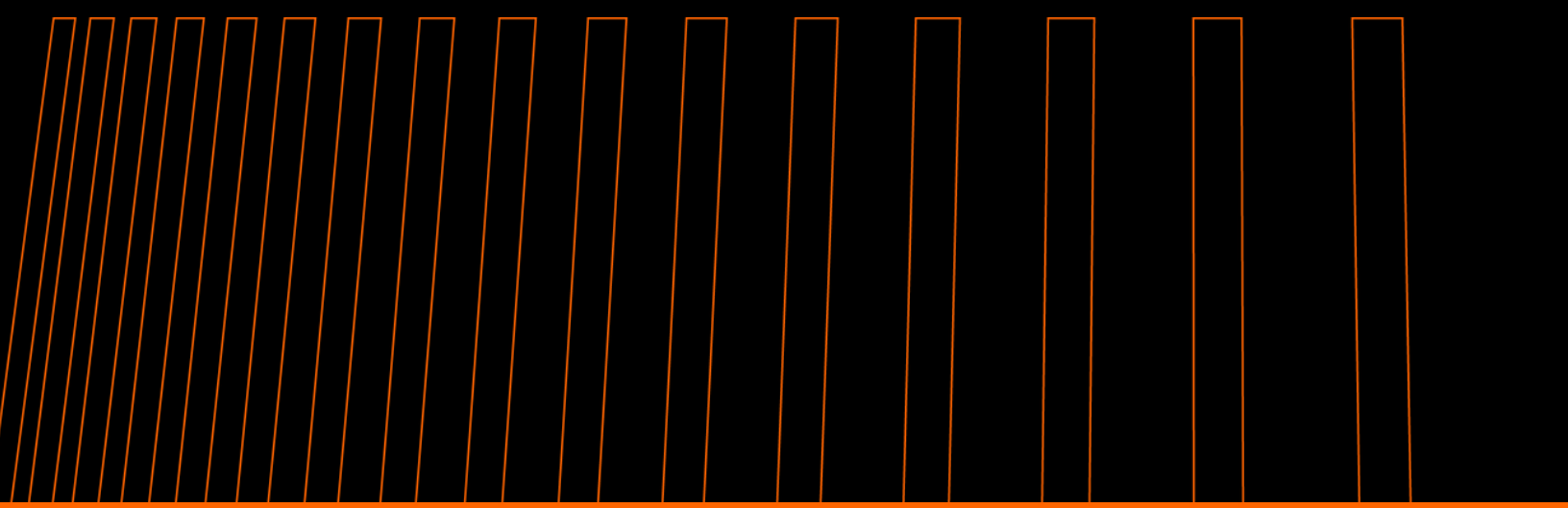


CalTestBed

AT A GLANCE



We support diverse entrepreneurs to drive innovation and build equity into the global clean energy economy by providing companies access to world-class testing facilities to accelerate the commercialization of clean energy technologies.

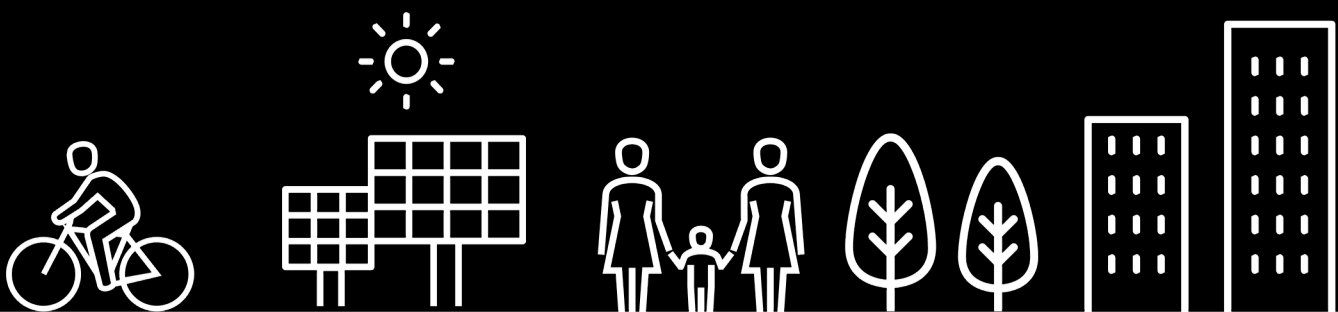
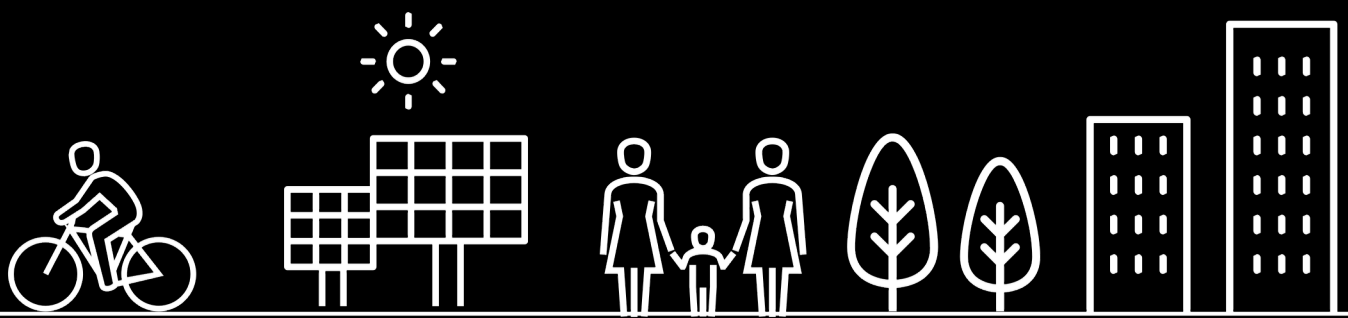


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ABOUT THE PROGRAM

WHO WE ARE

The California Testbed Initiative (CalTestBed) is a program created to accelerate California's clean energy goals by assisting clean energy entrepreneurs to access critical prototype testing. It is made possible by a \$22 million grant from the California Energy Commission (CEC) Electric Program Investment Charge and is administered by **New Energy Nexus**. In December 2022, CalTestBed was renewed, extending the program's lifecycle to 2026. Since 2019, CalTestBed has supported four cohorts of 63 companies on the cutting edge of clean energy innovation.

WHAT WE OFFER

CalTestBed provides clean energy entrepreneurs with vouchers worth up to \$300,000 for third-party testing of their technologies at one of more than 70 testbeds across eight University of California campuses and Lawrence Berkeley National Laboratory.

WHAT WE DO

CalTestBed uses EPIC funds to accelerate the commercialization and deployment of mid-stage clean energy innovations in California. Powered by New Energy Nexus and its mission to create a 100% clean energy economy for 100% of the population, CalTestBed utilizes a Justice, Equity, Diversity, and Inclusion (JEDI) lens in delivering social, economic, and environmental impacts throughout the state.

Eligible Companies

California Based

Companies/ Entrepreneurs must have a base of operations in California.

Technology Readiness Level 5-7

Applicants must have a prototype and technology readiness level (TRL) between 5-7.

Innovation Type and Category

Clean energy focused hardware & integrated solutions.

EPIC Aligned

Innovations must demonstrate benefits to California ratepayers aligned with the Electric Program Investment Charge (EPIC) funding priorities.

TESTIMONIALS

UCAP Power Inc.

“ Lifetime testing was performed on UCAP Power POWERBLoK ultracapacitor module and individual ultracapacitor cells at different temperatures and voltages. We were successful in gathering 9 months of lifetime data across different temperatures and voltages. Lifetime data is used to make predictions on real life use cases based on the specific voltage and temperature of the application.



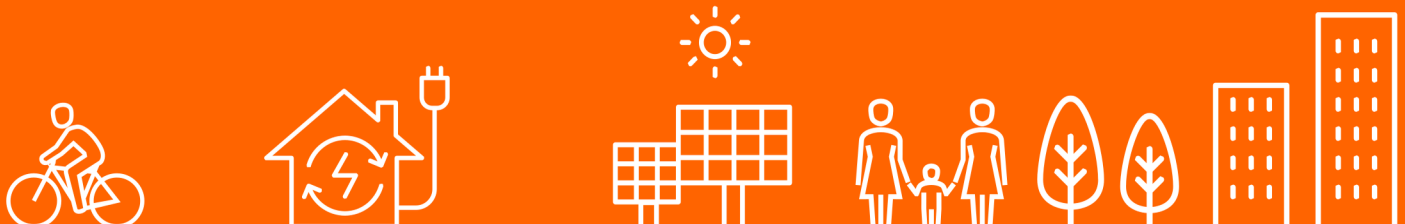
UCAP Power now has lifetime data on the POWERBLoK product that we can use predict expected lifetime of the product in the field. As typical lifetimes for ultracapacitor based products is >10yrs, it is very important for an accurate calculation to be done. Thanks to this project, we now have the data to backup up our estimates and support our customer. ”

Troy Brandon
General Manager and Vice President

Delphire Inc

“ CalTestBed enabled us to work with LBNL to validate that our technology can scale in the field with the current solar and battery setup. We were able to deploy three pilots as a result to keep watch over communities! ”

Gilberto DeSalvo
Chief Executive Officer



TESTIMONIALS

GS Research LLC

“ The Berkeley Labs experience has exceeded my expectations. It has provided the opportunity for the first installation of our window-integrated walls in a building. So much has been learned in the construction process. There are many window fabrication improvements that have come from our conversations with the FLEXLAB and Window & Envelope teams.



Their modeling work validated by the FLEXLAB data will allow us to dial in the number of glazing layers and diffusing shade grid configuration according to climate zone and solar orientation of the window.

We expect both enhancements in energy performance and value proposition as a result: double the whole wall thermal resistance at less first cost compared to conventional construction. ”

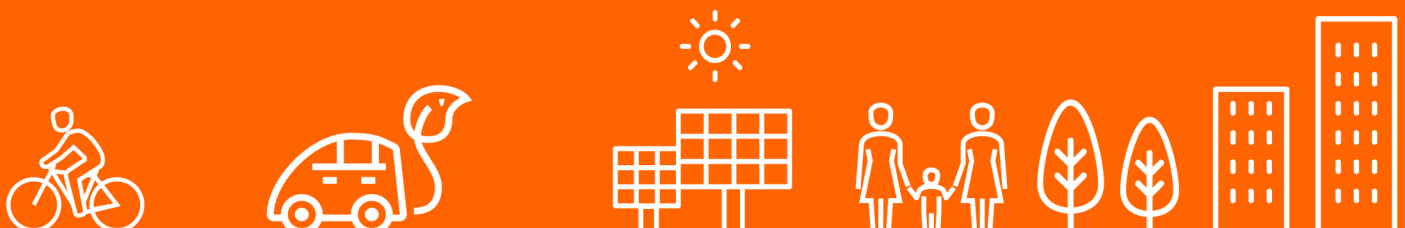
Mark Isaacs
Chief Executive Officer

Hago Energetics Benefit Corporation

“ CalTestBed has been instrumental in helping us obtain third party validation of the hydrogen from our innovative process. The program has allowed us to access world class facilities and talent which we would not normally be able to obtain. We are thrilled to have participated in this program. ”



Wilson Hago
Chief Executive Officer



IMPACT IN NUMBERS

CalTestBed entrepreneurs are pioneering solutions to help California decarbonize its energy sector and benefit California ratepayers.

COHORT 1 - 4

The 63 CalTestBed companies from the first four cohorts of the program are developing innovations to help accelerate California's clean energy goals.

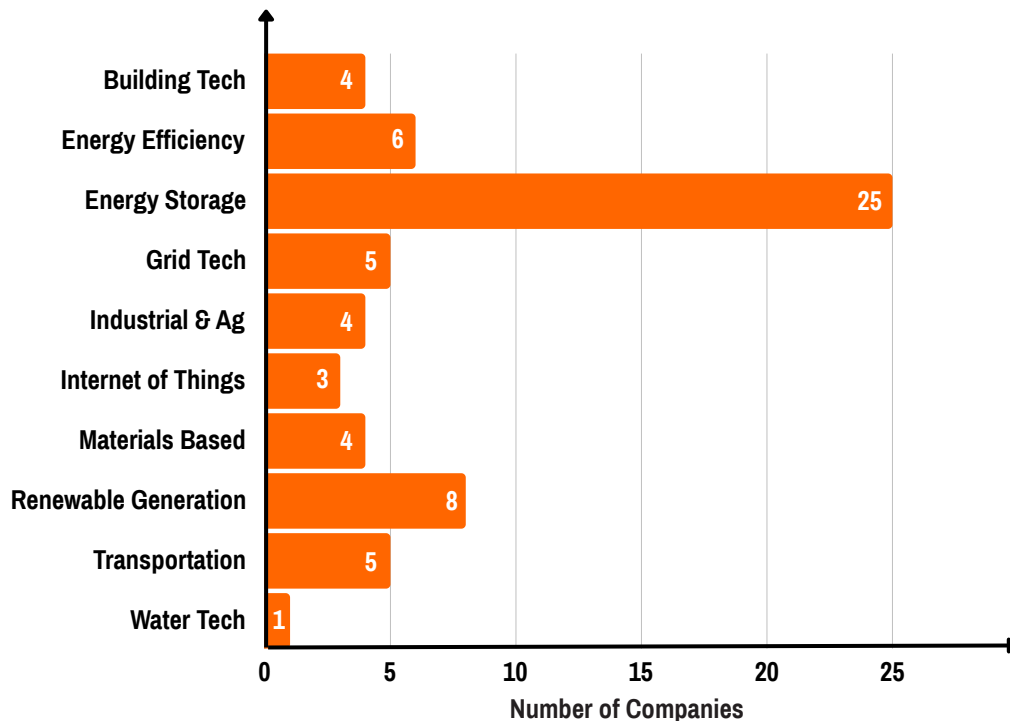
300 jobs since becoming CalTestBed awardees

\$416 M in follow-on funding reported since becoming CalTestBed awardees

\$16.5 M in vouchers awarded to testing facilities across all cohorts

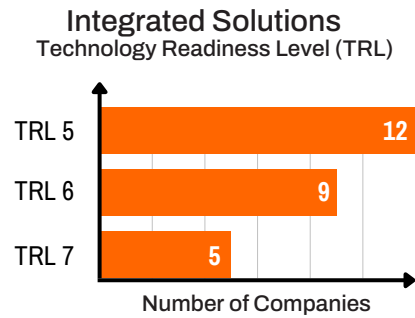
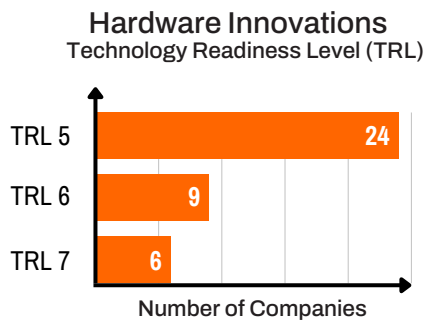
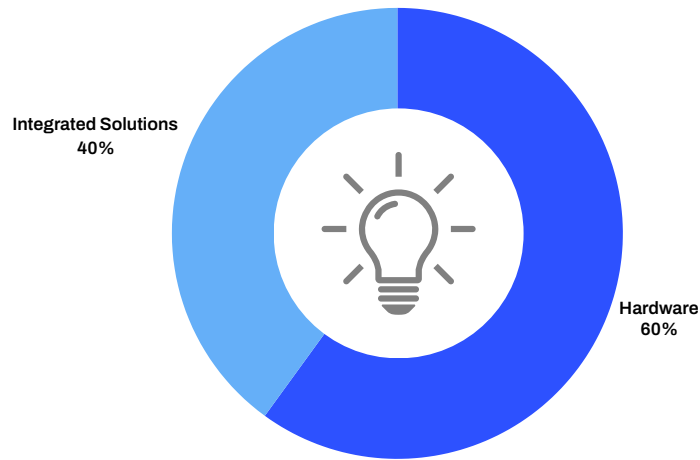
Over \$800k in cost-share provided by the University of California

Types of Technologies



*Two companies have been awarded twice: Twelve and EvolOH.

Innovation Breakdown

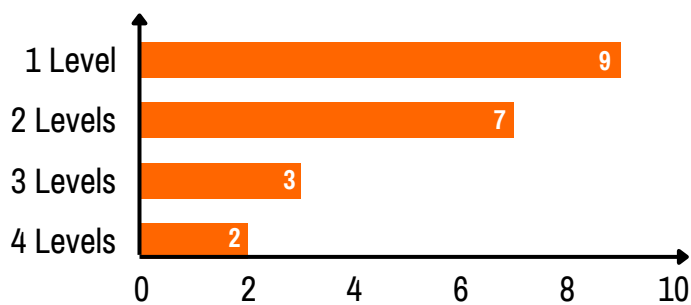


IMPACT IN NUMBERS

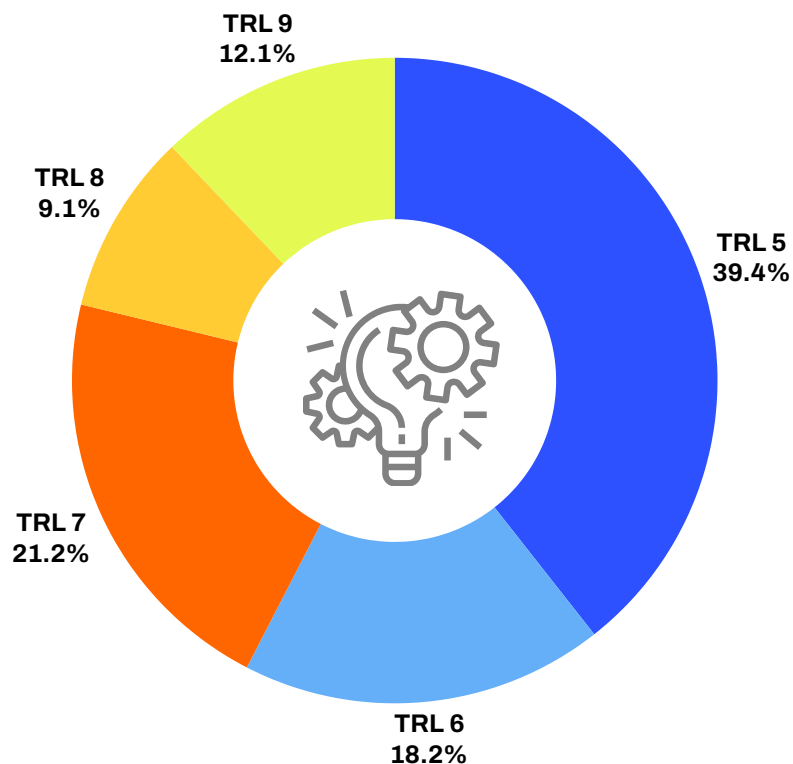
COMPANIES THAT HAVE COMPLETED TESTING

As of September 2024, 35 companies have successfully completed testing. Of those, the majority, 60%, have reported advancing their innovation by one or more Technical Readiness Levels (TRLs). The largest increase reported was four TRLs by EH Group and Gridware Technologies Inc.

TRL Advancement



TRLs After Testing



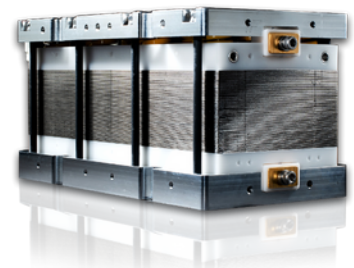
TESTIMONIALS

EH Group

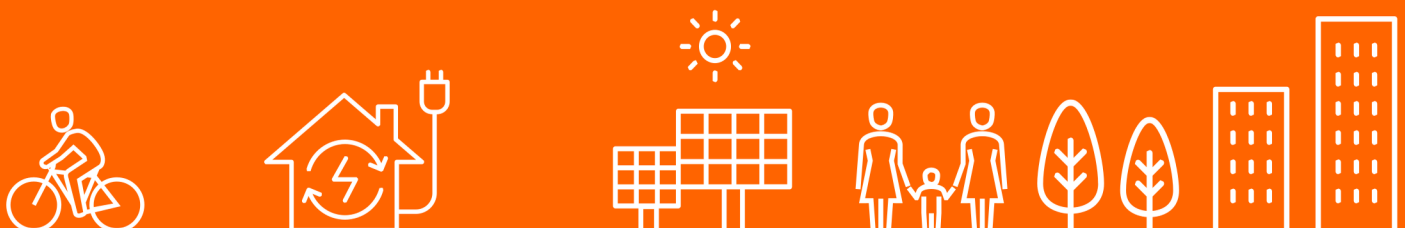
“ EH Group’s stacks are recognised in the industry for their market leading high-power density, flexible operating range, and design flexibility. As a relative newcomer to the industry, durability is also a decisive factor for wider deployments with clients. This is where the CalTestBed programme has been key.

The accelerated stress tests (AST) carried out at the National Fuel Cell Research Center, at UCI thanks to CalTestBed program, has helped us to identify the durability and performance of individual components of the membrane electrode assembly. We have gained further insights into the behaviour of our stacks under extreme conditions, as well as the impact of aging on their performance.

As a result of this valuable collaboration, the results have shown that EH stacks not only exceed DOE targets but have also demonstrated exceptional performance even under the most severe conditions. Thoroughly evaluating the quality of our products has allowed EH Group to confidently seek clients and partners in California and across the US. The objective is to accelerate the deployment of EH Group fuel cell products to decarbonize large stationary power, aviation, and marine applications. ”



Isabel Vazquez Fernandez
Lead Electrochemist



TESTIMONIALS

Enzinc

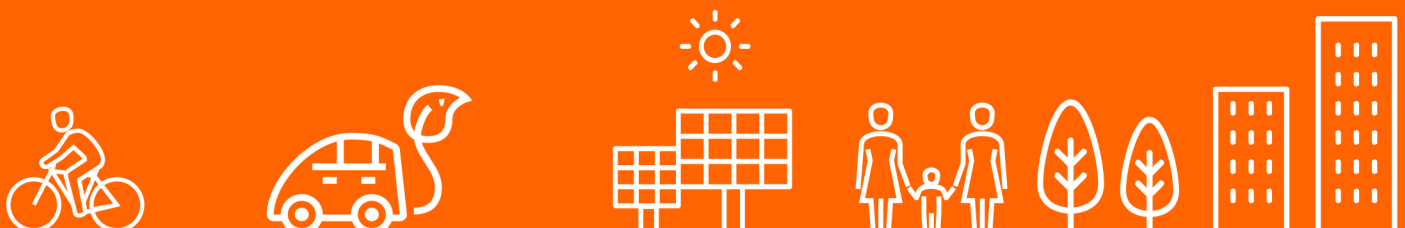
“ Enzinc was selected for the CalTestBed program in 2022. Enzinc has developed a new type of high-performance battery based on the common material zinc, the fourth most mined metal on the planet. The zinc micro-sponge allows zinc to be used in a high performance battery with the energy of lithium, the robustness of lead-acid, but is safer than both. This innovation was conceived by the United States Naval Research Laboratory (USNRL) and validated by the joint team of USNRL and led by Enzinc in an ARPA-E award.



The work allowed us to win a CalSEED Phase I and II award to take the technology from the lab to demonstration and, through CalTestBed, to test. Enzinc was assigned to work with the University of California, Riverside Center for Environmental Research and Technology. The advantage to a startup like Enzinc was the support of world-class researchers, engineers and their test equipment which is out of reach for a company at our stage.

The data from the CalTestBed has allowed us to scale the battery to power a full-scale urban electric vehicle, industrial equipment, and stationary energy storage modules. The result will be domestically sourced energy storage that does not catch fire or explode, is made of non-toxic materials, can be built in an existing lead-acid factory, and can be economically recycled. In other words supporting everything that SB100 envisions for California, then the US, and then the world. ”

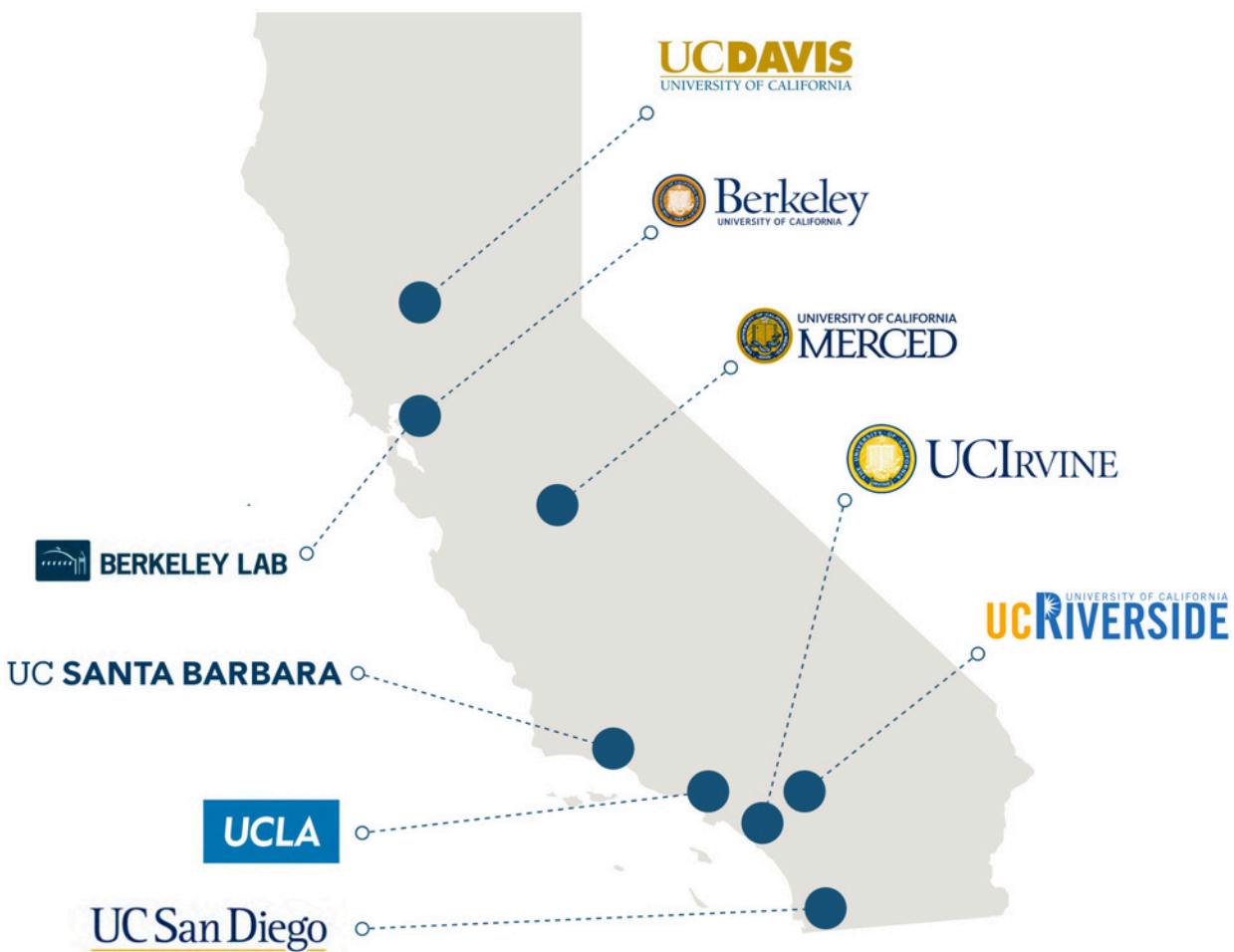
Michael F. Burz
Chief Executive Officer



ECOSYSTEM OF NETWORKS

CALTESTBED TESTING FACILITIES

CalTestBed's facility network includes more than 70 world-class testbeds across eight University of California campuses and Lawrence Berkeley National Laboratory.

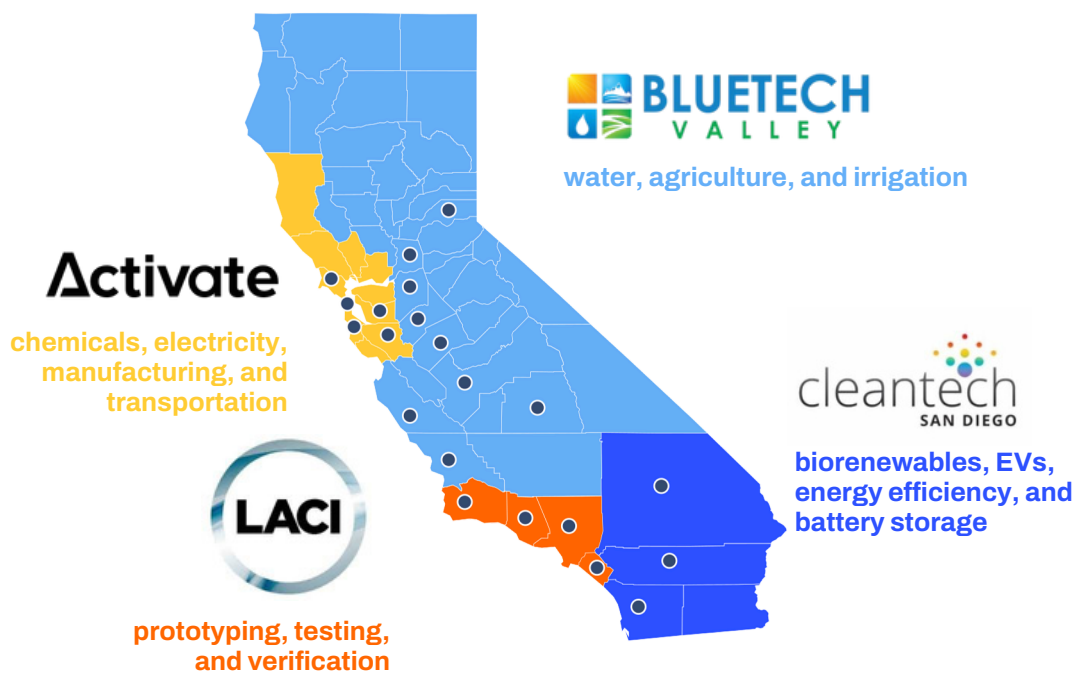


Learn about each of the world-class facilities where entrepreneurs can test their technologies by exploring our facilities directory: bit.ly/Facilities_Directory.

ECOSYSTEM OF NETWORKS

CALIFORNIA AND GLOBAL ECOSYSTEMS

As a program of New Energy Nexus, CalTestBed connects with clean energy innovation hubs across California and around the world to accelerate clean energy development and deployment.



THE NETWORK EFFECT

Rooted in California's broader clean energy innovation ecosystem, New Energy Nexus collaborates with key partners, including the California Energy Commission (CEC), the Regional Energy Innovation Clusters (REICs) such as Activate, BlueTech Valley, Cleantech San Diego, and LACI, to share information, expand outreach, and cultivate a network of next-level partners, accelerating clean energy solutions across the state and beyond.



EMPOWER
INNOVATION

A PLATFORM FOR THE NETWORK

Established by the California Energy Commission, this portal helps clean tech entrepreneurs get powerful tools and insights to compete globally.

CALTESTBED SYMPOSIUM

CalTestBed hosts a national symposium showcasing the program's entrepreneurs and connecting them with next-level partners in order to accelerate the commercialization of transformational clean energy technologies.

NEX LEVEL

The Convening for CA's Clean Energy Entrepreneur

NEX Level is an in-person conference for the California clean energy entrepreneur, bringing together innovators from our CalTestBed and CalSEED programs with funders, experts, and leaders across the state's clean-energy ecosystem.

October 3rd, 2024 in Berkeley, California



This year we rebranded and broadened the event to feature companies from both CalSEED and PowerForward, NEX California's other programs. NEX Level is designed to help entrepreneurs take advantage of the landscape of opportunities in California and beyond, including: emergent funding opportunities, regional innovation, legislation, partnerships, deployment and commercialization pathways.

[!\[\]\(e1d6102fe77919492c04879c8450f1f5_img.jpg\) Watch Previous Symposium Sessions](#)

2023

[From Lab to Market: Driving Innovation For Impact](#)

2021

[Inspiration to Innovation to Commercialization](#)

2020

[Supporting Clean Energy Innovation to Commercialization](#)

OUR PARTNERS

Thank you to our program partners who enable us to support California based clean energy innovators to reach the state's clean energy goals.



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CalTestBed AT A GLANCE

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