



Looking Forward to the Next Decade

On July 18, Berkeley Lab celebrated a big anniversary: It's been 10 years since **FLEXLAB**[®] opened its doors as the world's most advanced integrated building and grid technologies testbed.

In that time, FLEXLAB has supported numerous projects centered around decarbonized infrastructure and healthy communities — from **helping small building owners** identify cost-effective electrification retrofit options to **evaluating a control approach for HVAC systems** to provide frequency regulation.

Through the new Technology Commercialization Fund Open Voucher Call, described below, innovators can access the resources at FLEXLAB and other support from Berkeley Lab. Read on in this issue to learn more about the latest news from Berkeley Lab's Building Technologies and Urban Systems (BTUS) Division, including a library of over 320 **real-world case studies** from the 50001 Ready team and new tools to support industrial decarbonization.

Cindy Regnier, Executive Director of FLEXLAB, Whole Building Systems Department Head, BTUS Division

NEWS

BTUS Researchers Present at The Alliance to Save Energy's 2024 Policy Summit

Several Berkeley Lab researchers presented at the Alliance to Save Energy's 2024 Policy Summit, **Demand is the New Supply: Powering the Energy Transition with Demand-Side Solutions** in May in Washington, D.C. **Aven Satre-Meloy**, **Jared Langevin**, and **Andrew Satchwell** delivered a keynote at the conference on their recent project **U.S. Building Sector Decarbonization Scenarios to 2050**. Also at the summit, **Jessica Granderson** participated in a panel titled, "Achieving Grid Stability and Energy Affordability





50001 Ready Team Releases Case Studies Library

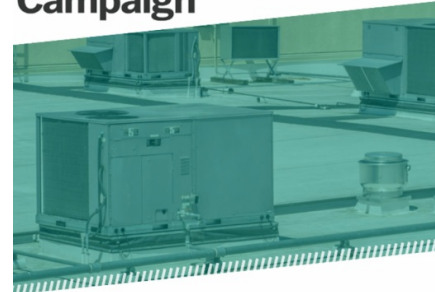
Berkeley Lab researchers from the award-winning energy management program 50001 Ready released a library of over 320 **real-world case studies** that had completed energy management programs such as **50001 Ready**, **Superior Energy Performance**, and the **Energy Management Leadership Awards**. The library details the successes of organizations that achieved real energy savings and have maintained those savings in the subsequent years.

The case studies show that organizations that applied the International Organization for Standardization (ISO)-50001 energy management systems achieved average persistent energy savings of over 3% each year. This library serves as a roadmap for organizations that hope to make energy management a primary part of their company culture.

Smarter Small Buildings Campaign Recognition Webinar

The **Smarter Small Buildings Campaign** publicly recognized three organizations in 2024 — **LUSH**, **Sheetz**, and **Bakersfield College** — for their excellence in rooftop heating, ventilation, and air conditioning (HVAC) controls. The virtual event, part of the Better Buildings summer webinar series, aired to the public on July 30 to 245 registrants. The Smarter Small Buildings Campaign is a program of Berkeley Lab that offers free technical assistance and recognition opportunities for facility teams who install ready-now controls technology for their portfolio.

Smarter Small Buildings Campaign



[Click here to join the campaign!](#)

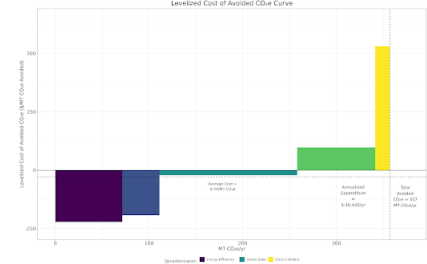


Technology Commercialization Fund Open Voucher Call: Submissions Open

Applications for the Technology Commercialization Fund Open Voucher Call are due October 3. A select number of innovators will receive \$100,000 vouchers to advance breakthrough technologies with assistance from National Laboratory facilities, including Berkeley Lab. **Spread the word!**

Industrial Decarbonization Tools Developed by BTUS Researchers

Researchers from Berkeley Lab and UC Davis have released new decarbonization-support tools for industrial facilities: the **Facility CO₂e Flow Tool** and the **Levelized Cost of Avoided CO₂e** tool. The tools are open-source, free and now available online, making them accessible with a common nomenclature and methodology. "In a few simple steps, users could learn how to convert their energy usage into Scope 1 and 2 carbon dioxide equivalent emissions and further calculate the carbon abatement cost (in \$/ton) for any decarbonization or energy efficiency measure," says BTUS researcher **Nick Karki**.



Berkeley Lab and UC Davis Energy Efficiency Institute originally created the tools to support onsite assessments by the Department of Energy's (DOE) **Industrial Assessment Centers**. The work is funded by the DOE Manufacturing & Energy Supply Chains Office (MESC).

Berkeley Lab Hosted a Workshop for the International Energy Agency's Energy in Buildings and Communities Program (IEA EBC).

In April, Berkeley Lab researchers led by **Ronnen Levinson** hosted the **First Development Workshop for Sustainable Cooling in Cities**, a new Annex (project) proposed for the **IEA EBC**. 70+ participants met to plan a five-year international collaboration that will explore the physics, technologies, and policies of urban heat mitigation; how local outdoor climate affects the resilience of buildings to heat waves; and the optimal integration of active cooling systems with urban heat dissipation strategies.



Incubating Market-Propelled Entrepreneurial-Mindset (IMPEL) 2025 Cohort Applications Open

IMPEL is now accepting applications for its 2024-2025 cohort. Join a visionary community of innovators decarbonizing the built environment through this tech-to-market program. **Apply to IMPEL** today! Applications accepted through September 22.

The program will host an informational Kickoff Webinar on August 12 at 1 PM PDT to share FY25 opportunities and timelines. Featured speakers will include select FY24 cohort members, IMPEL's executive coaches, expert mentors, and advisors from DOE and Berkeley Lab.

[Webinar Registration Link](#)

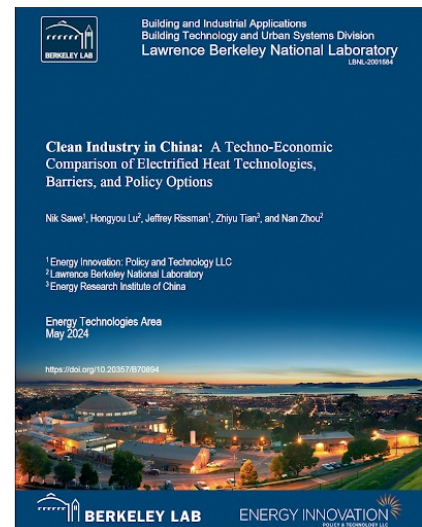
2024 Advanced Facades Workshop Hosted at Berkeley Lab

The Berkeley Lab **Windows Team** hosted the **2024 Advanced Facades Workshop in April**. The workshop involved discussions with facade manufacturers, architects, engineers, building owners, energy services company personnel, and researchers on the highest RD&D priorities to support adoption of advanced controls for automated facades. In the hands-on component of the workshop, participants were able to develop an advanced controller with Berkeley Lab tools and deploy it at the Advanced Windows Testbed.



Clean Industry in China: A Techno-Economic Comparison of Electrified Heat Technologies, Barriers, and Policy Options

In May, **Hongyou Lu**, **Nan Zhou** and **Curtis Wong** of Berkeley Lab and Energy Innovation jointly hosted two webinars, in both English and Chinese, to launch the report **Clean Industry in China: A Techno-Economic Comparison of Electrified Heat Technologies, Barriers, and Policy Options**. The webinars were attended by over 70 participants, with participants from governmental agencies, universities, and international nongovernmental organizations. This groundbreaking research, the first of its kind, delves into the techno-economics of industry heat decarbonization options. The report showcases several viable options, including heat pumps and thermal batteries, which have the potential to significantly reduce emissions from some of the largest emitting industries.



AWARDS



2024 Residential Buildings Service Award from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

Iain Walker received the 2024 Residential Buildings Service Award from ASHRAE. This award is for service to ASHRAE focused on residential buildings. This includes committee and standards leadership, organizing conferences, serving on the Epidemic Task Force and authoring residential issue briefs, ASHRAE position documents, and publications related to residential applications.

PUBLICATIONS

- Walker, I.S., Less, B., Lozinsky, C., Lorenzetti, D.M., Casquero-Modrego, N., Sohn, M.D. (2024) "Compartmentalization and Ventilation System Impacts on Air and Contaminant Transport for Multifamily Buildings." buildings.lbl.gov/publications/compartmentalization-and-0
- Jiang, J., Yin, D., Sun, Z., Ye, B., Zhou, N. (2024) "Global Trend of Methane Abatement Inventions and Widening Mismatch with Methane Emissions." buildings.lbl.gov/publications/global-trend-methane-abatement
- Robinson, A., Fernandes, S., Hong, T., Lee, S.H., Levinson, R.M., Piette, M.A. (2024) "Potential Urban Heat Island Countermeasures and Building Energy Efficiency Improvements in Los Angeles County." buildings.lbl.gov/publications/potential-urban-heat-island

Above is a sample of our recent publications. To find more, please visit buildings.lbl.gov/publications.

Building Technology & Urban Systems | Energy Technologies Area | Berkeley Lab

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See also: Department of Energy [Building Technologies Office](#)

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Lawrence Berkeley National Laboratory (Berkeley Lab) is located in the Berkeley Hills near University of California (UC) Berkeley and conducts scientific research on behalf of the United States Department of Energy (DOE). The Laboratory overlooks the UC Berkeley.

Berkeley Lab addresses the world's most urgent scientific challenges by advancing sustainable energy, protecting human health, creating new materials, and revealing the origin and fate of the universe. Founded in 1931, Berkeley Lab's scientific expertise has been recognized with 14 Nobel prizes. The University of California manages Berkeley Lab for the U.S. Department of Energy's Office of Science. For more information, visit www.lbl.gov.

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