California ENERGY COMMISSION

BERKELEY LAB

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CALFLEXHUB 2026 Symposium

APRIL 15, 2026 | 8 a.m. – 6 p.m. | Hybrid – Berkley, CA & Online

Flexing Large Loads at Scale: The New IAW FlexHub

Jessica Granderson
Director
Berkeley Lab

Akruti Gupta
Demand Flexibility R&D Specialist
California Energy Commission

Matt Fung
Mechanical Engineer
California Energy Commission

Matt Hart
CEO
Momentum

IAW flexhub

The New Industrial, Agriculture, and Water Load Flexibility Hub

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Our Vision

The IAW FlexHub is dedicated to advancing the research, demonstration, and deployment of load flexibility technologies to meet California's 7,000 MW load shift target by 2030.

By developing proven, scalable solutions, we aim to enable widespread adoption across diverse industrial, agricultural, and water sectors nationwide.

The IAW FlexHub is a **sibling consortium** to the CalFlexHub—expanding demand flexibility innovation to large end users.

Our Partners

Prime Sponsor

- California Energy Commission

Supporting Sponsors

- Southern California Edison
- Pacific Gas & Electric

Research Partners

- Berkeley Lab
- UC Davis
- EPRI
- Stanford
- Fresno State
- DNV
- PSE Healthy Energy

Demonstration Partners

- Siemens
- Innovative Cold
- One Water (City of Santa Barbara)

What to Expect: A Rigorous Approach

Market Assessment

- Lead: Berkeley Lab
- Dive deeper into the IAW opportunities in California
- Inform future rate design & IAW FlexHub demonstrations

Community Framwork

- Lead: PSE Healthy Energy
- Standardize our approach to engaging with impacted communities to aggregate impact
- Explore the difficult attribution of demand flexibility benefits at the IAW Scale

Measurement & Verification (M&V)

- Lead: DNV
- Standardize our approach to M&V to understand potential from our portfolio

What to Expect: Demonstrations

What are we looking for?

- Advancing near-commercial technologies
- Enrollment in existing demand flexibility rate structures to validate performance in commercial operating environments.
- Demonstrated cost savings of at least 5%
- Demonstrated payback of 5 years or less

Do we have room for more?

- Yes we do!
- Our Open Call for 2026 is accepting entries through June 19
- No fully formed project or idea? No problem. Please submit your thoughts and ideas, wherever you are in your demand flex journey.

Please visit iawflexhub.org at “Apply to Be a Demonstration Project Partner” for more.

How Do I Learn More?

Join Us!

- Send us a message
- Join our mailing list
- Join a Stakeholder Group
  - Industry
  - Technology & Implementor
  - Load Serving Entity
- Send us a Concept to be a Demonstration Partner by June 19.

Visit iawflexhub.org
or scan the QR Code.

iAW

Upcoming Events — It's Flex Week!

UC Davis Industry & Materials Event

April 16, 2026 (8am-5pm)

- The **free, in-person event** brings together industry, academia, government, and utilities to examine research, and deployment pathways for optimizing industrial systems and materials production.

IAW FlexHub Launch Event and STG Q2 2026 Meeting

April 17, 2026 (8am-12pm)

- The **free in-person and virtual event** convenes stakeholders working to transform how industrial facilities, farms, and water infrastructure interact with California's electric grid.

Contact MOMENTUM

Kula Addy
Project Lead

kula@buildmomentum.io

Sophia Racke
Project Manager

sophia@buildmomentum.io

Jessica Singh
Market Lead

jessica@buildmomentum.io

Matt Hart
Executive Lead

matt@buildmomentum.io

Thank you!

The New Industrial, Agriculture, and Water Load Flexibility Hub

BERKELEY LAB

Bringing Science Solutions to the World

No better time for the IAW Hub

CA is 3rd largest electricity consumer in US

Industry-Ag-Water is 2nd largest end-use sector in CA, central to meeting our goals

Industrial rates are high, more than 2x the avg of all other states

LBNL's world-class DF capabilities, only possible with

1) Early and sustained R&D investment from CA state

From early implementations into today's policy framewoks and program ecosystem

2) Strong partnerships spanning the DF delivery chain

Customers, technology and service providers, utilities and state planning bodies

3) Position as a DOE Lab in CA, linking national and state activities

CFH, <--> DOE's national roadmap for flex in buildings

IAW Hub <--> national REFLEX effort to accelerate industrial DF adoption

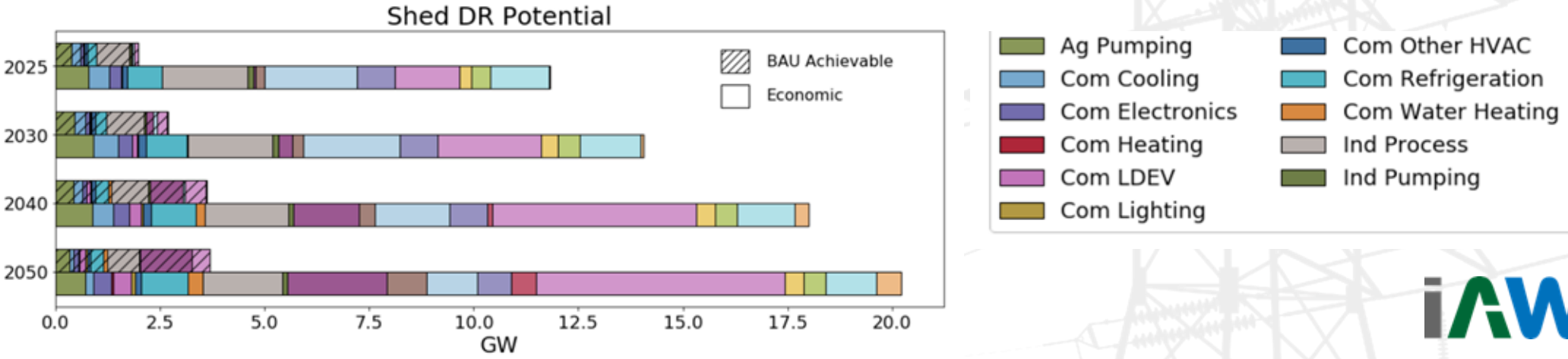
Market Assessment

The next segment in an arc of national and state flexibility potential studies, drilling deeper into how IAW sectors affect the electricity grid, what benefits can be realized by making them more flexible, and the value proposition of key technologies

Prior work in CA DR and Price Response Potential Studies showed

- 3.2 GW shed DR technical potential in 2030, across 3 IOUs, from Ag+Industry
- 1GW peak demand reduction from dynamic price response of crop irrigation alone, $Ks/yr/meter

Right: Results from CA DR Potential Study, Phase 4



Market Assessment Approach

Characterize Electricity Demand Patterns - all meters in 4 utilities, 2019-2024

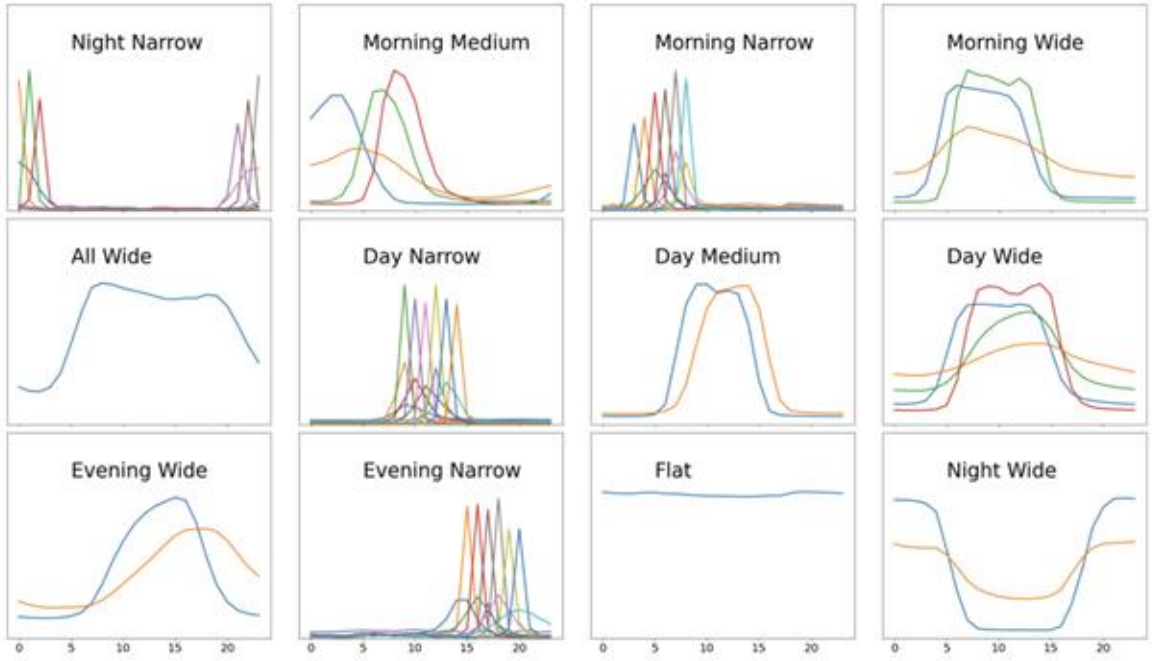
- Assess operational schedules, coincidence with grid peaks, variability and seasonality, and more
- Identify patterns across subsectors, facility sizes, and locations, to inform estimation of total potential, target flexibility interventions

Model Statewide Load and Flexibility Potential

- Create future demand forecasts, and estimate the total statewide technical potential for load shed and shift

Determine Technology Value Proposition

- Conduct "bottom-up" case studies on specific flexibility technologies in partnership with demonstration teams
- Model load response under various pricing and program scenarios, and compare cost to potential bill savings



Clustering of daily load shapes performed on a previous industrial sector data sample

Siemens all-electric factory demonstration

Siemens is both the site host and technology partner, bringing together the customer perspective and tremendous presence in industrial automation and flexibility solutions

Facility characteristics:

- Manufacturing facility in SCE territory, Pomona
- 146,000 sq ft all-electric factory
- PV serving ~30% of facility load, 934 kWDC, 750 kWAC
- 500kW/1,100 kWh battery storage

This demonstration will:

- Mature two nearly market-ready technologies (Siemens' LMA and B.eos) with cross-sector applicability across commercial, campus, and industrial facilities
- Demonstrate multi-asset control orchestration across HVAC, PV, battery, and potential TES
- Create an opportunity to understand the costs, benefits, and operational constraints of continuous demand management and shed/shift flexibility in a real-world, operating all-electric facility where power management has significant economic implications

Demonstration Approach

Deploy Load Management Application (LMA)

- Siemens' commercial demand-response software that adjust HVAC controllable loads for peak demand limiting and automated demand response.

Deploy Building Energy Optimization Suite U.S. (B.eos U.S.)

- Siemens' pre-commercial optimization platform being adapted for the U.S./CA market. Integrates OpenADR supports CAISO participation, and creates predictive models for day-ahead and real-time scheduling of battery and PV.

Explore LF Control Strategy & Algorithm Enhancements

- Integration of advanced flexible control strategies and improved system-level coordination across various assets (e.g., hot water TES, BESS, PV) to be validated in modeled environments for industry adoption.

The Impact

Novel Technology Integration Validated

- Demonstrated integrated demand flexibility from both LMA and B.eos with up to 250kW demand reduction, 5-12% energy cost savings, and 3-5 year payback.

B.eos U.S. moves from TRL 7 to TRL 9

- LMA and B.eos U.S. are ready for commercialization in the CA market at TRL 9 by the end of the demonstration project.
- Replicable deployment pathway is created for other industrial customers.

Open Specifications Published for Industry-wide Adoption

- Open specifications to be available for other technology vendors who may benefit from adopting load flexibility algorithms in their product development.

What's Next

Project Milestones

- LMA Installation: October 2026
- **LMA LF Data Captured: September 2027**
- B.eos Deployed: February 2028
- **TES Evaluation: September 2028**
- **B.eos LF Data Captured: November 2028**
- **M&V Analysis Complete: September 2029**
- Project Concludes: March 2030





Contact the Team

- Stacy Curry, LBNL Project Manager
  SLCurry@lbl.gov
- Donghun Kim, Demonstration Lead
  donghunkim@lbl.gov
- Sarah Smith, Market Assessment Lead
  SJSmith@lbl.gov
- Jingjing Liu, LBNL Co-PI
  jingjingliu@lbl.gov
- Jessica Granderson, LBNL PI
  JGranderson@lbl.gov