

CALFLEXHUB SYMPOSIUM

NOVEMBER 3 | 8am-4pm PT



SARAH SMITH



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CALFLEXHUB RESEARCH SPOTLIGHTS

SPEAKERS:

Sarah Smith

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2023



CalFlexHub Task 2

Stakeholder Perspectives

Sarah Outcalt
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CalFlexHub Symposium
November 3, 2023

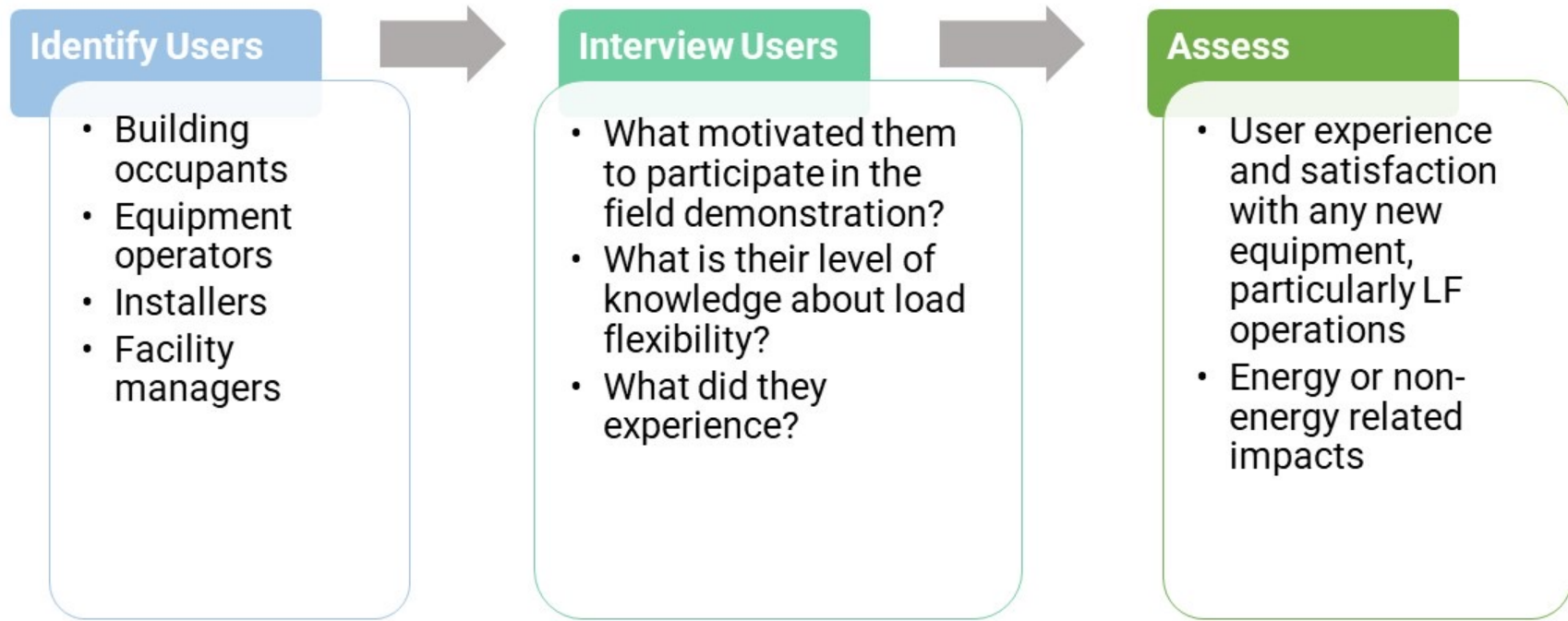
Task 2 overview

- » Task 2.1 – Stakeholder needs assessment
- » Task 2.2 – User assessments of CFH-tested load flexible devices
- » Task 2.3 – Market assessments CFH-tested load flexible devices

Preliminary insights from user assessments (Task 2.2)

- » Sub-task lead: Angela Sanguinetti

User assessment process for CFH



Insights from User Assessments



Design interface components to inform users and enable key user interactions



Provide feedback to users about LF impacts



Consider and track possible rebound effects

Task 2.1 – Stakeholder Needs Assessment (Year 2)

» Acknowledgements

- Eli Alston-Stepnitz, UC Davis
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- Sagal Alislad, UC Davis
- Cinthia Magana, UC Davis
- Margaret Taylor, LBNL

Data collection

» Methods

- In-depth, semi-structured interviews, qualitative analysis

» Respondents

Stakeholder group	Individuals (n=68)	Organizations (n=50)
Technology providers (equipment & communications)	21	13
Service providers (Utilities, CCAs)	16	13
Large commercial customers (e.g., universities, government)	19	15
Environmental/energy interest groups	12	9

Stakeholders' view of CA's vision

- » Mostly positive: “bold”, “ambitious”
- » Implementation challenges noted (e.g., grid capacity)
- » Stakeholders question overlap with other policies/goals (e.g., energy efficiency, electrification)

Are load flexible technologies ready?

» Technology providers: yes!

"I think there is zero hurdle with the actual devices... I don't think there's anything new that needs to be developed – I think it's all out there. I wouldn't spend another penny developing smart devices further."

» Customers: not so fast! More testing to ensure technologies are:

- Available, affordable, reliable, durable, interoperable, usable, ROI

» Automation: balance efficiency and control

- → Keeping humans in the loop with override options

Customer priorities

- » Recognizing customers' priorities (which may compete with load flexibility) - hint, it's not energy!

"[Commercial] customers are delivering on a mission... If you're a lab, you don't care how much energy bill the fume hood uses. You want to make sure that you're operating a safe lab and that your freezers are never gonna go down. The mission is what matters.

[Residential customers] just want to come home and cook their kids a meal and get their kids to school and have visitors over and just get through their day."

- » Maintaining comfort and control – Load flexible technologies need to minimize disruption

Bill savings

- » Reducing customer bills thought necessary to attract participants
 - But will rate design allow for large differentials?
- » Minority of customers will be motivated by environmental values

"I think a majority of Californians would wanna do something that's good for the environment. If it's cost neutral, that would be an incentive for a lot of them to want to do it if they can and it wasn't super burdensome."

Enrollment defaults

- » Voluntary participation is politically feasible but inadequate to achieve California's goals

*“The idea of every customer facing a real time price is kind of insane. It's probably not gonna yield a good result, so the rate structures have to be **opt-in.**”*

- » Mandatory participation is effective but politically challenging
 - Bonus: Broad participation would minimize impact on individual participants

Special considerations for disadvantaged communities

- » Ethics of inclusion/exclusion – avoid exploitation!
- » Outreach to overcome language, cultural, and trust barriers
- » Infrastructure limitations (e.g., panel, WiFi) - split incentives
- » Bill impacts
 - Savings important but limited?
 - Aversion to bill uncertainty
 - Need protection against bill spikes

“There would need to be especially strong safeguards for disadvantaged communities.”

Final thoughts

- » We only get one shot to get this right
- » Continued collaboration across stakeholder groups is the only way forward

The biggest need is for increased collaboration... you've gotta have equal involvement upfront from the policymakers, the utilities, the technology providers. And those engagements have to be really robust, because it's not gonna work unless everything's aligned, or at least in support of one another. ...We all have to be in concert together.

Thank you.

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For more information visit:
<https://energy.ucdavis.edu/market-transformation-research-program/>