NARUC Summer Policy Summit

Committee on Energy Resources and the Environment

Cost Recovery and the Clean Energy Transition

11:15 a.m. – 12:15 p.m.

Cost Recovery & Clean Energy Transition

Darcie L. Houck
Commissioner, California Public Utilities Commission
July 15, 2024

California Public
Utilities Commission

Overview

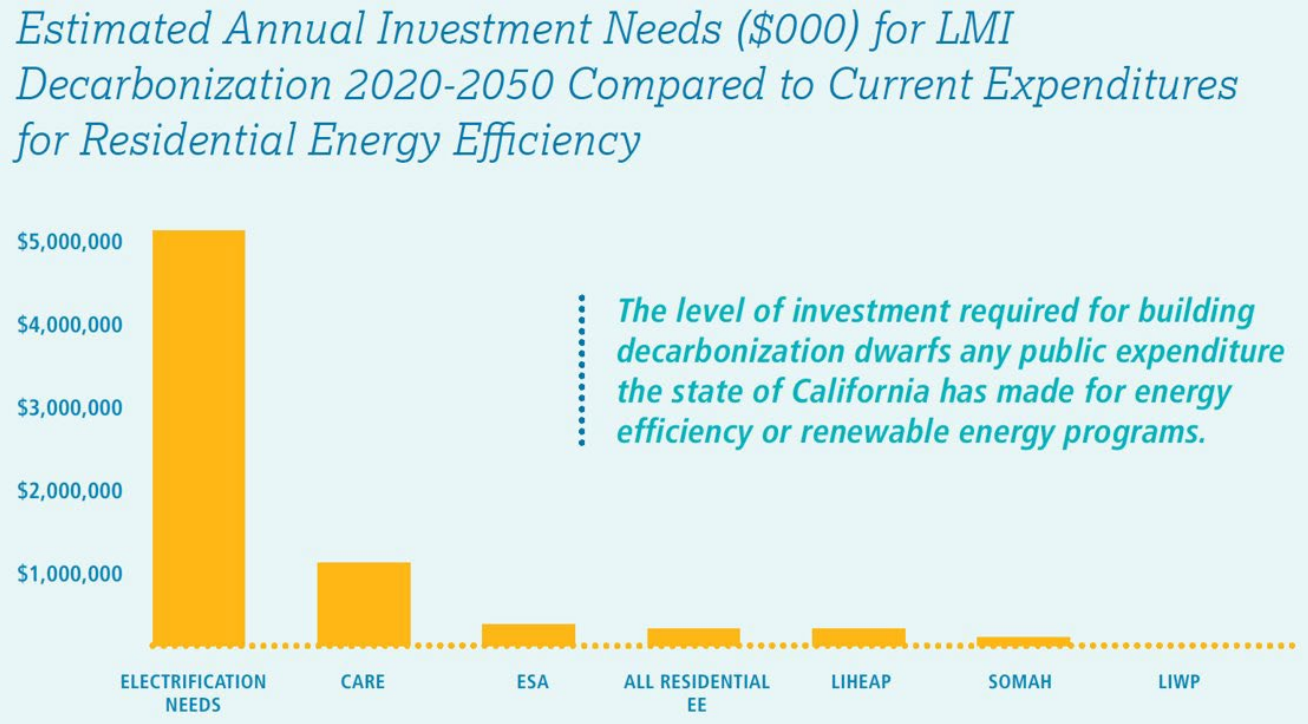
- Building Decarbonization
- Low Income Programs & Flat Rate
- Load Flexibility

Building Decarbonization

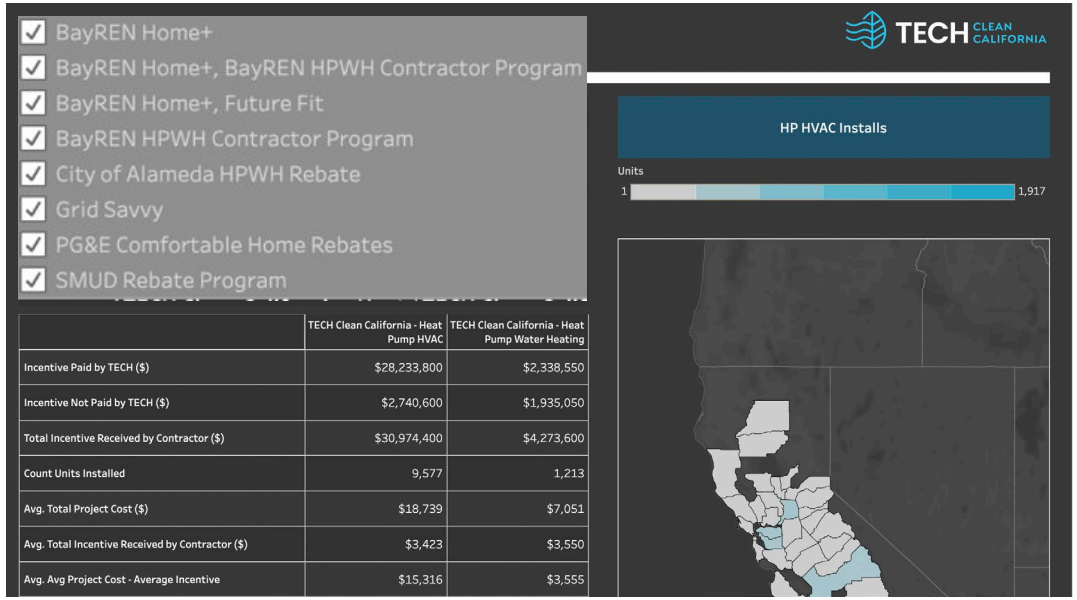
California Public
Utilities Commission

Federal funding gap is mirrored by a state funding gap despite CA's big spending

- Federal IRA rebates, tax credits, and state/local incentives are not inherently equitable.
- Even with billions in funding and means testing for rebates, IRA is not guaranteed to go to those who need it most.
- CA rebates are too small for the need and even in the massive new TECH program, LMI households are only 6% of participants.



California Public Utilities Commission



	TECH Clean California - Heat Pump HVAC	TECH Clean California - Heat Pump Water Heating
Incentive Paid by TECH ($)	$28,233,800	$2,338,550
Incentive Not Paid by TECH ($)	$2,740,600	$1,935,050
Total Incentive Received by Contractor ($)	$30,974,400	$4,273,600
Count Units Installed	9,577	1,213
Avg. Total Project Cost ($)	$18,739	$7,051
Avg. Total Incentive Received by Contractor ($)	$3,423	$3,550
Avg. Avg Project Cost - Average Incentive	$15,316	$3,555

https://www.buildingdecarb.org/uploads/3/0/7/3/30734489/bdc_whitepaper_final_small.pdf; https://techcleanca.com/

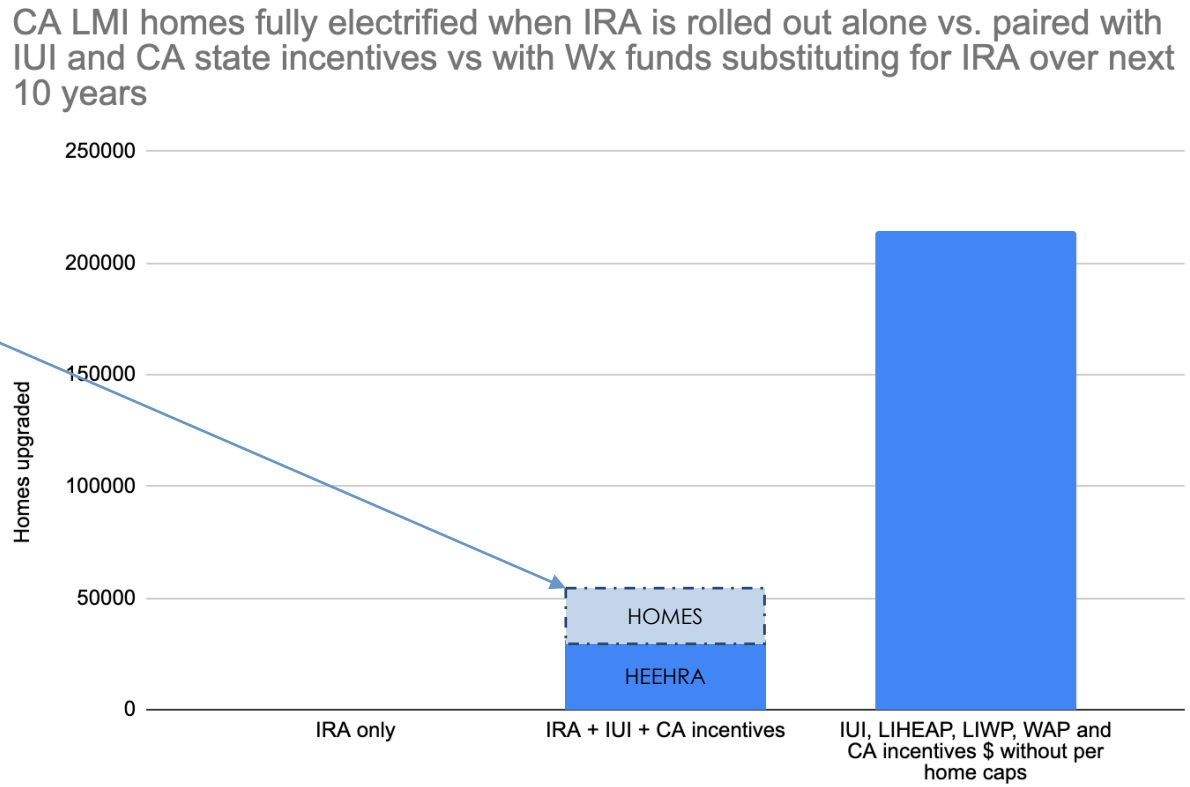
Funding gap is a barrier to participation

- CPUC opened its Clean Energy Finance Rulemaking (R.20-08-022)

What fiscally sustainable financial solutions can assure that every household has at least one accessible and acceptable option to pay for cost effective energy upgrades?

How much farther will IRA go in CA if paired with guardrails?

- CA goes from upgrading zero LMI homes with IRA alone to upgrading 32,000 homes and accessing $450M in federal HEEHRA funds
- To access <u>any</u> of the $450M HOMES rebates for LMI residents, CA will need to provide an additional $4k to $10k in rebates ($128M-$320M)
- After IRA fund are expended, CA could upgrade an additional 200K LMI homes substituting weatherization program funds, but only if it pooled all CA funding sources and eliminated the programs current per home limits
- **After upgrading all these homes still more than 90% of CA LMI homes would remain unimproved**



Total Project Cost
Direct GHG benefits
SGIP incentives
CCA incentives
ESA Direct Install
Local EE incentives
TECH incentives
IRA low-income incentives
LIHEAP 15% for upgrades
LIWP
WAP infrastructure act

Rulemakings in progress

- R.20-08-022 Clean Energy Financing
- R.19-01-011 Building Decarbonization
- R.21-01-007 Long-Term Gas Planning
- R.18-07-005 Disconnections
- R.22-07-005 Demand Flexibility (CalFUSE and Flat Rate)

Low Income Programs, Disconnections & Flat Rate

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Low-Income Programs – CARE, ESA, FERA

- **200% of Federal Poverty Guidelines**
- California Alternate Rates for Energy (**CARE**)
  - Low-income customers that are enrolled in the CARE program receive a **30-35% discount** on their **electric bill** and a **20% discount** on their **natural gas bill**.
- Energy Savings Assistance Program (**ESA**)
  - Provides no-cost weatherization services to consumers who meet the CARE income limits.

- **250% of Federal Poverty Guidelines**
- Family Electric Rate Assistance Program (**FERA**)
  - Families whose household income slightly exceeds the CARE allowances will qualify to receive FERA discounts, which bills applies an **18% discount** on their **electricity bill**. FERA is available for customers of Southern California Edison, San Diego Gas & Electric Company, and Pacific Gas and Electric Company.

Addressing Disconnections R.18-05-007

- Arrearage Management Program
- Percentage of Income Payment Plan Pilot
- Community Based Organization Pilot Program for bill management assistance

Flat Rate

Customer Type	Flat Rate
CARE (~30% of customers)	$6/mo
FERA & deed-restricted affordable housing with incomes at or below 80% of the area median income	$12/mo
Everyone else	$24.15/mo

- Reduces the price of a unit of electricity by 5 to 7 cents per kilowatt-hour.

Demand Flexibility & Load Management Standards

California Public Utilities Commission

Demand Flexibility is Needed for Grid Reliability

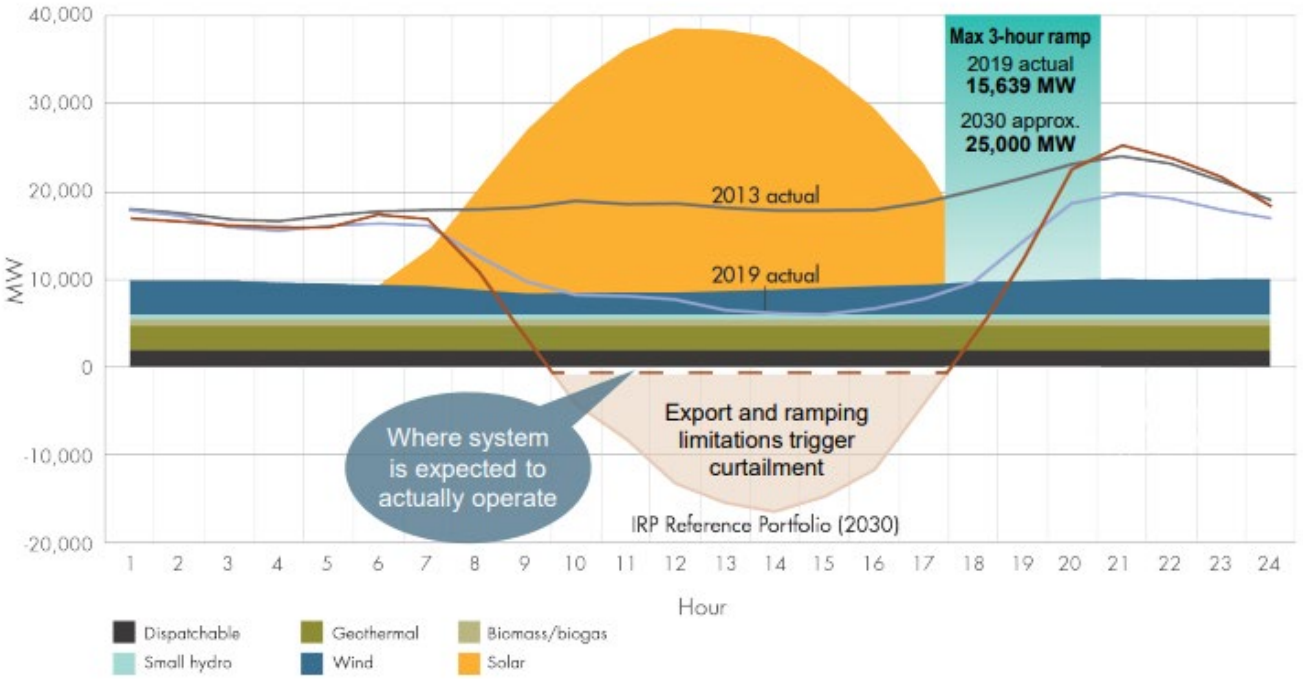
Increased grid reliability challenges due to high renewables penetration and more extreme weather.

System trends by 2030

- High renewables penetration expected to increase evening ramp by 60%
- Increased reliance on intermittent, use-limited supply leads to reliability challenge
- Battery storage capacity now exceeds **11,000 MW** in CAISO, up from 500 MW in 2020

Integrated Resource Planning

- DR can be a cost-effective alternative
- Highly scalable, low-cost deployment strategies still needed



California ISO

Graphic from CAISO "*Briefing on Post 2020 Grid Operational Outlook,*" Mark Rothleder, VP, @ CAISO BLOG, December 19, 2019

Current Approaches to Achieving Demand Flexibility

- Time-Differentiated Rates (Load Modifying Demand Response [DR])
  - Increasing number of special purpose IOU rates: TOU, CPP, EV, SGIP GHG signal …
  - Increasing number of CCAs & Rates!
  - Lengthy ratemaking process, generally lagging (out of date), sometimes conflicting
  - Administratively complex & confusing to customers/industry

- Market-Integrated, Incentive-based DR Programs (Supply Side DR)
  - Multiple programs focused on load shed as resource adequacy
  - Challenges in CAISO market integration, measurement & verification
  - Considering new programs for load shift DR
  - Administratively & technically complex, inefficient, high transaction costs

- Distribution level DR
  - Additional localized, temporary rate/incentive tariffs or
  - Incremental DER procurement contracts

➔ Complex, inefficient, expensive, confusing

➔ Limited adoption, difficult to scale

➔ High cost of controls, automation

Vision for New Load Flexibility Rulemaking

Explores advanced rates and demand response strategies to effectuate *widespread load management*, and a *more robust, dynamic, transactive DER marketplace*.

Support long term electrification

- Leverage more effective DR and retail rate design strategies

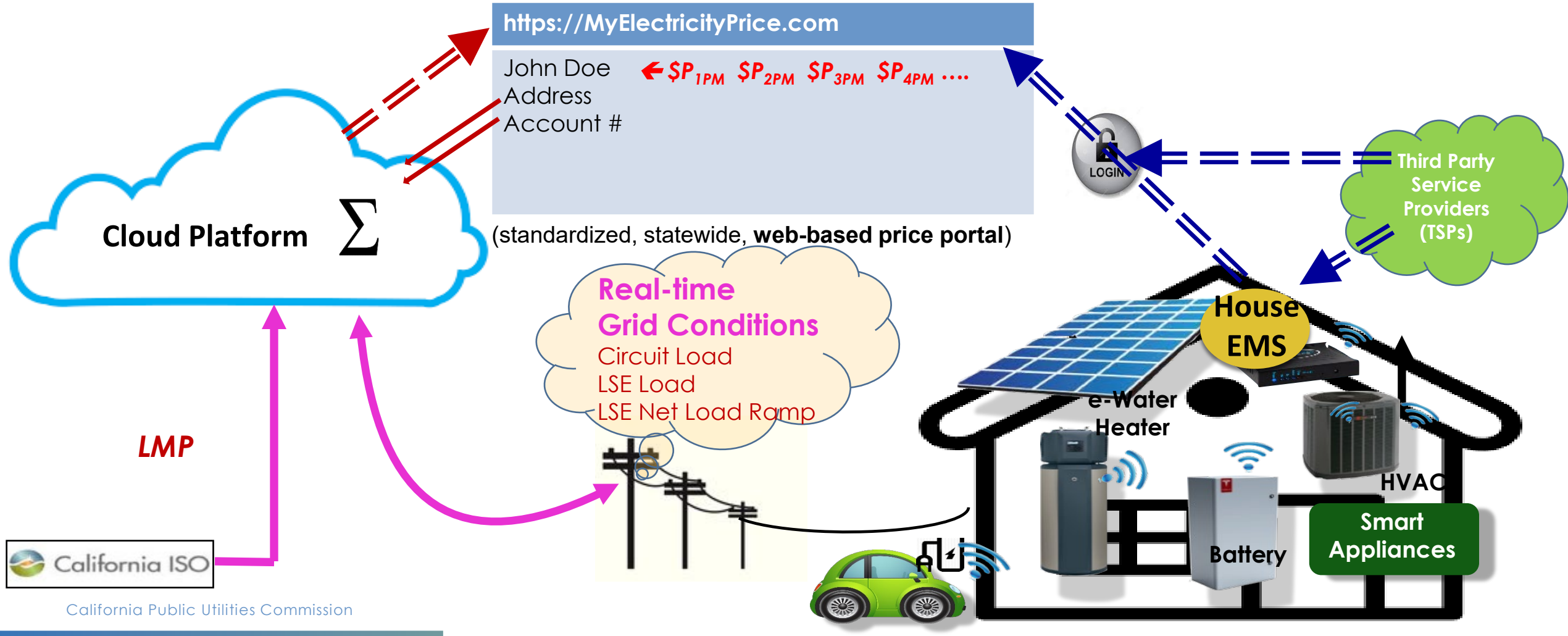
Support and accelerate California's clean energy goals

- Better address grid issues associated with the growth of renewables, electrification, and DER adoption

Promote fair and secure compensation for DERs

- Encourage mechanisms and automation technologies in an increasingly transactive bidirectional grid

Real-Time Locational Prices that Reflect Grid Conditions



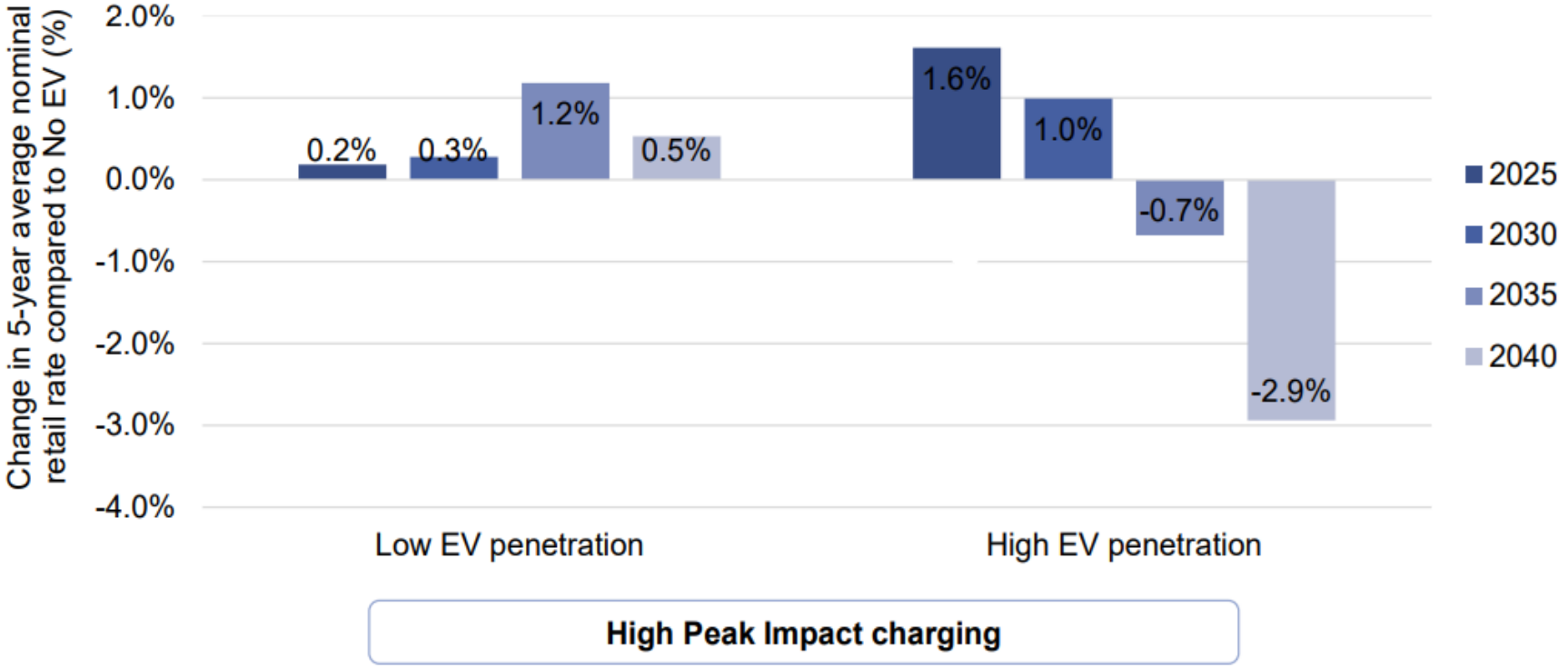
Cost Recovery for Electrification of Buildings and Transportation

Jeff Deason

NARUC Summer Policy Summit
July 15th, West Palm Beach, Florida

This work was funded by the U.S. Department of Energy Office of Policy under Contract No. DE-AC02-05CH11231

EV electrification rate impacts depend on the timing of costs and sales growth



Consider an EV deployment strategy that <u>maximizes</u> peak demand impact

Low EV penetration

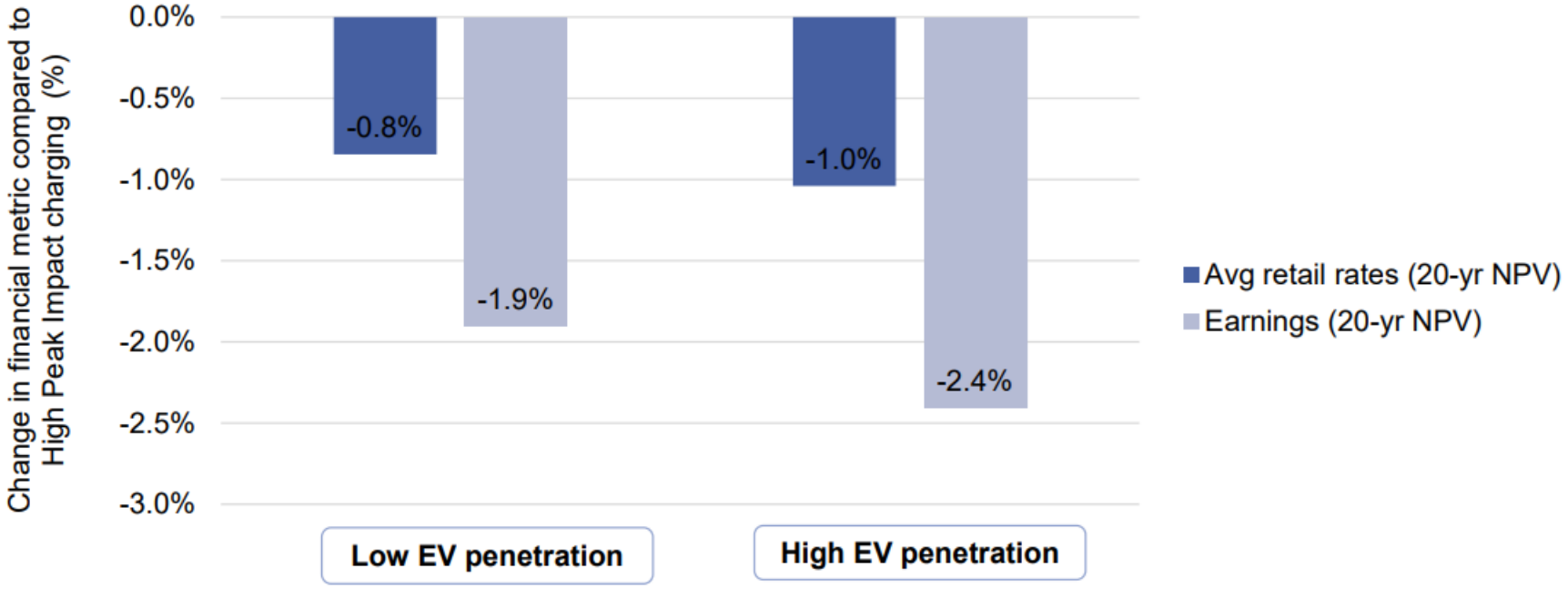
- Initial large infrastructure investments are not sufficiently offset by sales for rates to drop

High EV penetration

- Initial large infrastructure investments result in a rate increase
- Average rates drop over time in the long term as load increases

Source: LBNL, 2023, Quantifying the Financial Impacts of Electric Vehicles on Utility Ratepayers and Shareholders at p. 22

EV electrification rate impacts depend on charging strategies



Consider an EV deployment strategy that <u>minimizes</u> peak demand impact.

Relative to the unmanaged case:

- Average retail rates drop between 0.8-1.0%
- Shareholder revenues also decrease between 1.9-2.4%

Source: LBNL, 2023, Quantifying the Financial Impacts of Electric Vehicles on Utility Ratepayers and Shareholders at p. 24

Distribution system and electrification-driven load growth upgrades

A simplified view of the distribution system *– from upstream capacity infrastructure to grid-edge customer loads*

Upstream distribution network and substations

Service line and transformers

Meter

Customer loads

*Investments due to specific **large loads** may be governed by **line extension policies***

*Investments due to **general load growth** recovered in **general rate cases***

Line extension policies

Program costs *may include behind-the-meter and front-of-the-meter investments and are recovered though **riders or base rates***

Novel ways that states are approaching distribution system cost recovery for electrification

A simplified view of the distribution system

Upstream distribution network and substations

Service line and transformers

Meter

Customer loads

Upstream distribution upgrades.

Utility-side of the meter upgrades

Customer-side of the meter upgrades

Proactive investments

- ✓ Legislation authorizing **new rate-making mechanisms** for energization/ electrification investments (CA, CO)
- ✓ Ongoing proceedings considering the **role of riders vs. base rates** (MA, NY)
- ✓ **Two-way balancing account** for energization/electrification (CA)

Line extensions

- ✓ **Removal of allowance limit** for residential line extensions (CA, CO)
- ✓ **Customer cost caps** for EV/building electrification (CO)
- ✓ **Transformer fee exception** for small C&I customers (MA)
- ✓ **Higher allowance** for EV charging **in low-income/EJ communities** (IL)

EV/BE Programs

- ✓ Approaches range from **riders** (MA, CO), to **base rates** (IL, RI)
- ✓ Budget flexibility varies:
  - ✓ **One-way accounts for EV programs** (CA)
  - ✓ Includes a **fixed cap** to exceed budget (CO)
  - ✓ Budget flexibility **subject to commission approval** (IL)

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Contacts

Jeff Deason: JADeason@lbl.gov

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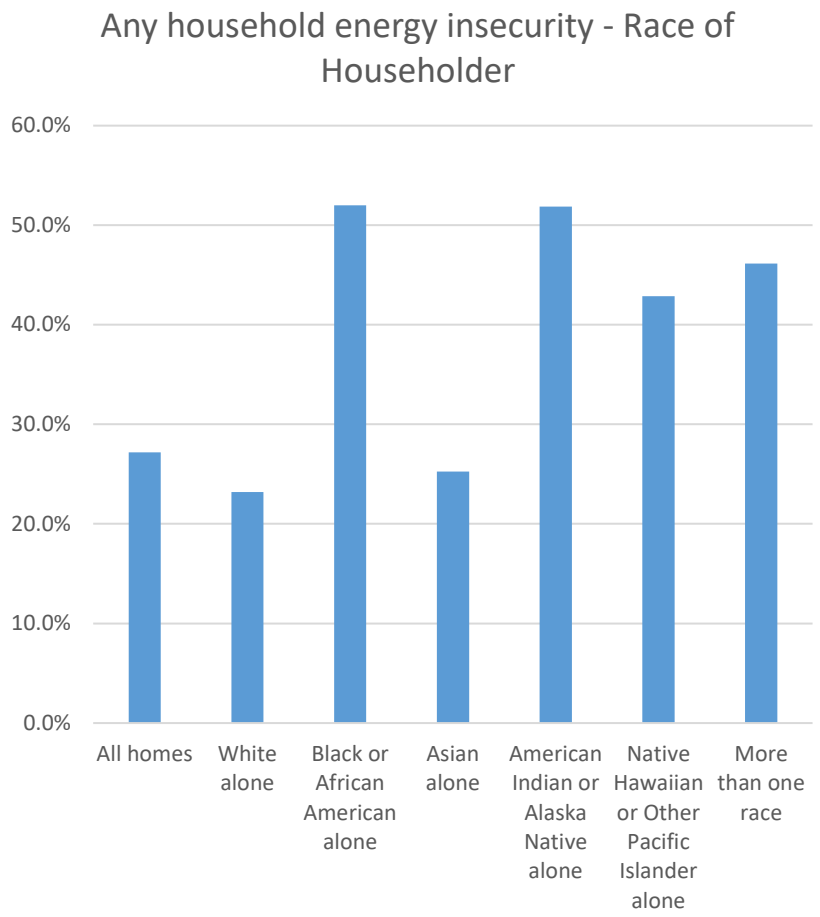
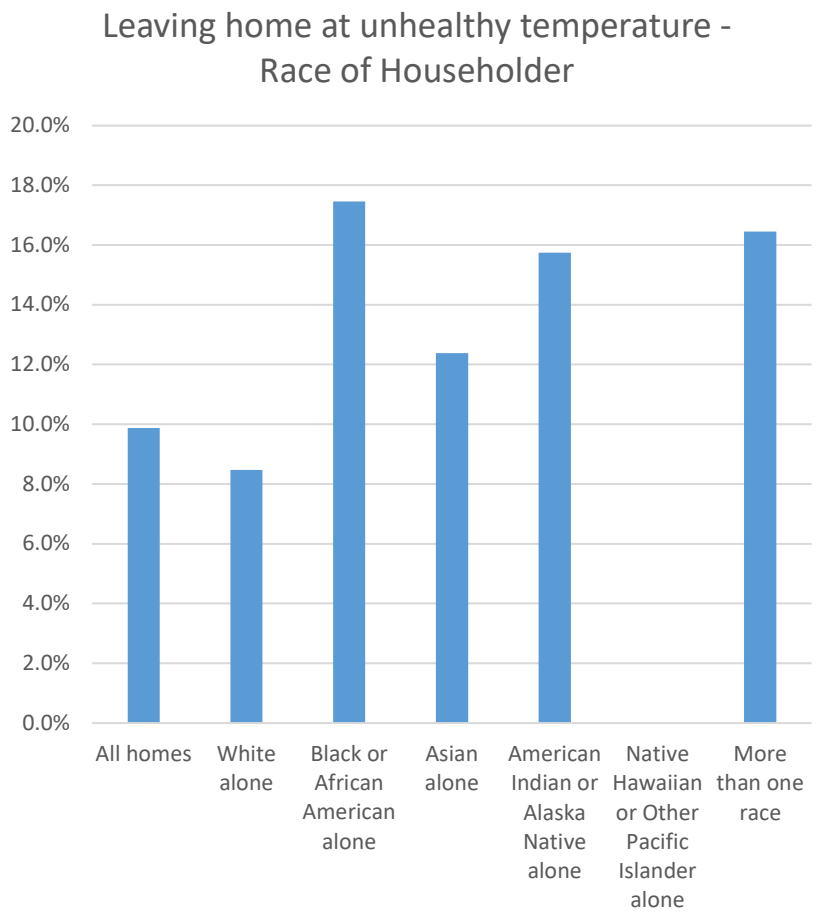
Energy Insecurity by Race





Disparate impacts of disconnection policies -- ComEd

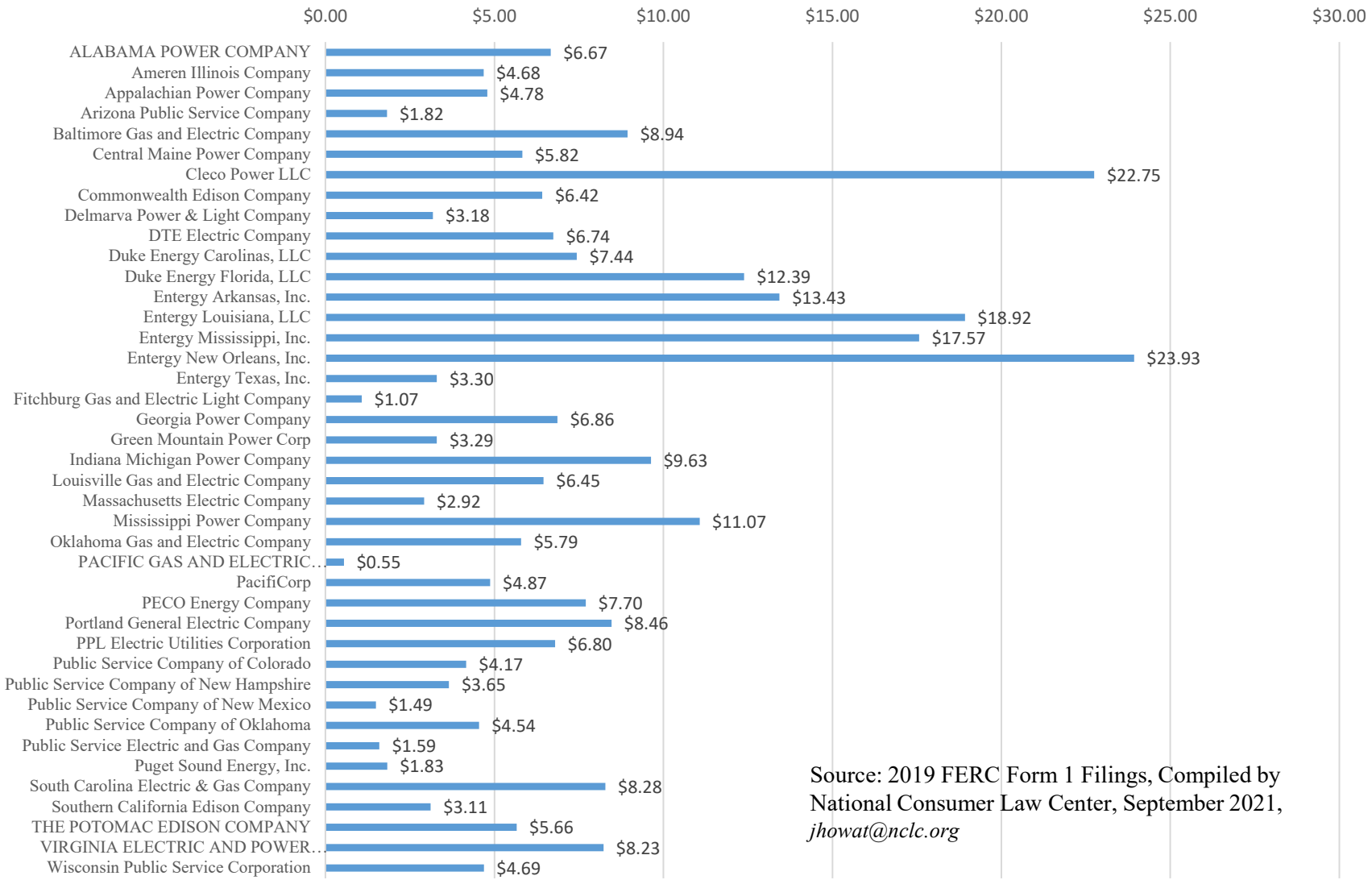
- There is a striking overlap between race and service disconnections.
- ComEd: Among the 20 zip codes with the highest disconnections ratio, 13 were among the top 20 zip codes with the highest non-white populations.*
- 16 of the 20 zip codes cited fall within Environmental Justice Communities and all 20 fall within the state's definition of Equity Investment Communities.**
- Relevant data point: Only 14.7% of Illinois' population is Black; Latiné or Hispanic population is 18.0%. (60% white) (https://www.census.gov/quickfacts/IL)

Case in Point: What Illinois Zip-Code-Level Data Reveals

- Tufts University analysis of zip-code-level disconnection data, 2013-2020*:
  - Controlling for income distribution and other demographics, customers in non-white neighborhoods were four to five times more likely to have their power disconnected, both in normal times and during the COVID-19 pandemic.
  - During the COVID-19 pandemic, there was a 9X expansion in low-income assistance to pay utility bills, but disconnections were double and deferred payment plans triple their historical averages in October 2020. About 20% of all accounts were charged late fees. The odds for each of these measures were multiples higher in non-white zip codes.
- How to change these outcomes? Significant change in disconnection practices is needed – now and in future.

**The incidence of extreme economic stress: Evidence from utility disconnections,* S. Cicala, Tufts University, June 28, 2021.

Electric Utility Late Payment Fees per Customer



Source: 2019 FERC Form 1 Filings, Compiled by National Consumer Law Center, September 2021, *jhowat@nclc.org*

Not-for-profit electric cooperative

Serving ~500,000 citizens in Central Florida via over 240,000 metered accounts

One of the nation's fastest growing electric cooperatives

7th largest electric cooperative in the U.S.

ONE SECO STRATEGY MAP 2023-2025

MISSION:

As a not-for-profit cooperative, SECO Energy provides reliable and innovative energy services to our members and communities

VISION:

SECO Energy will lead the industry in member satisfaction and engagement and be the preferred employer in our region.

VALUES:

Safety | Member Commitment | Honesty & Integrity | Strong Work Ethic | Inclusive Culture | Accountability | Teamwork

PEOPLE & CULTURE

- P.1 Attract, Develop and Retain Talent
- P.2 Sustain and Grow Institutional Knowledge
- P.3 Build Cross-Functional Competency
- P.4 Empower Our Team to Execute Strategy

INITIATIVES

MANAGE WHOLESALE POWER

A1. Leverage Demand Response
A2. Alleviate Transmission Constraints
A3. Embrace Distributed Generation & Storage

OPTIMIZE BUSINESS PROCESSES

B1. Leverage Technology
B2. Modernize Facilities
B3. Optimize & Grow Infrastructure

DELIVER HIGH IMPACT SERVICES

C1. Beneficial Electrification
C2. Serve as Members' Trusted Energy Advisor
C3. Leverage Data for Proactive Communications

FINANCIAL

- F.1 Mitigate Rising Energy Costs
- F.2 Grow Sales
- F.3 Diversify Revenues

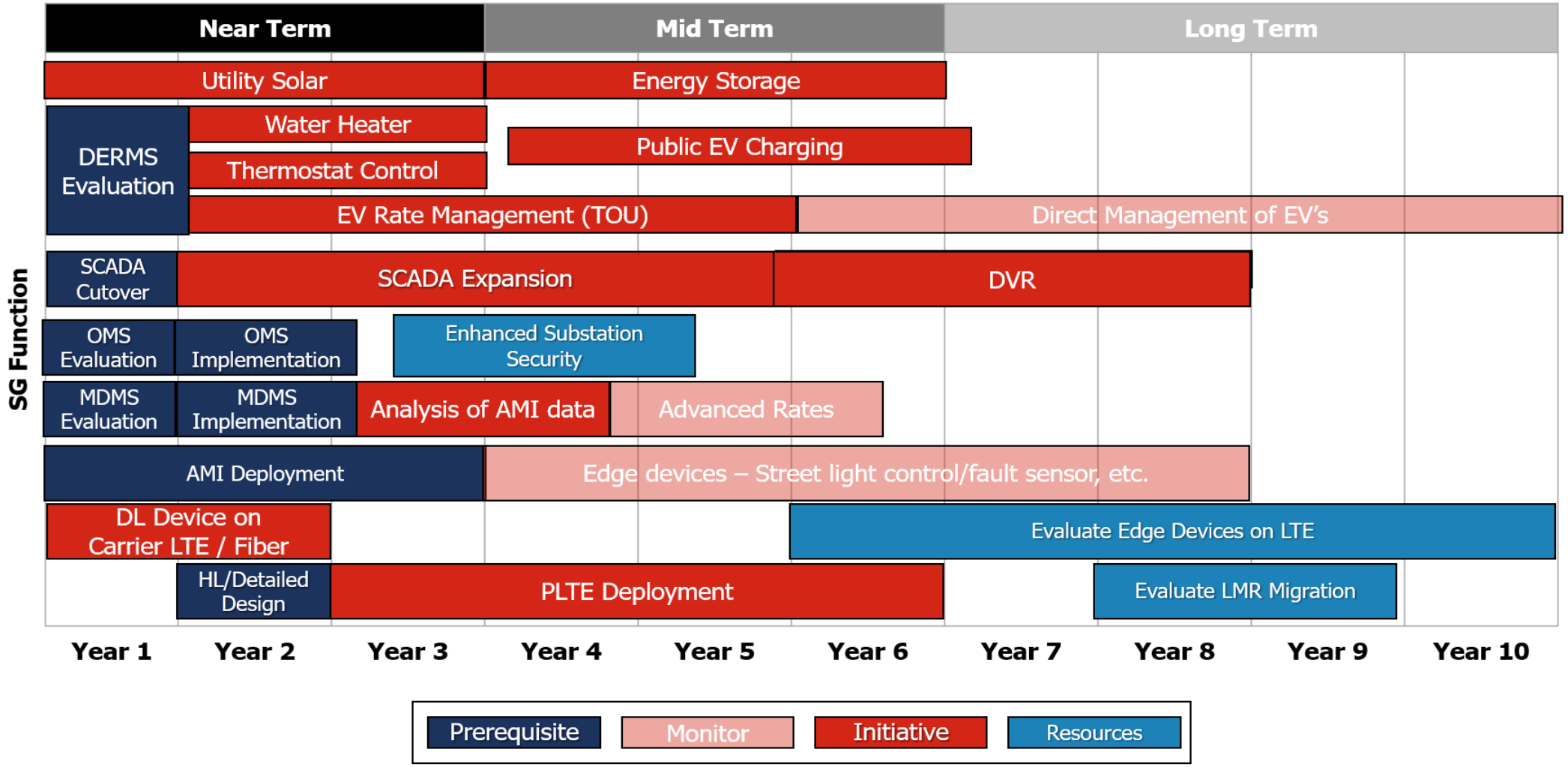
MEMBERS

- M.1 "SECO Energy is reliable and a good value"
- M.2 "SECO Energy helps me manage my energy usage"
- M.3 "SECO Energy is my trusted source for energy solutions"

Clean Energy and Smart Grid Technology Roadmap

Roadmap

Initiatives were identified based on leveraging communications network and scheduled based on benefit, complexity, and time to implement major prerequisites. ****Grant funding will impact outlined priorities!***



Clean Energy and Smart Grid Technology Roadmap

Demand Management

Behavioral DR

Water Heater Control

Smart Thermostat

Electric Vehicles

Distributed Energy Resources – Utility Scale Solar & Storage

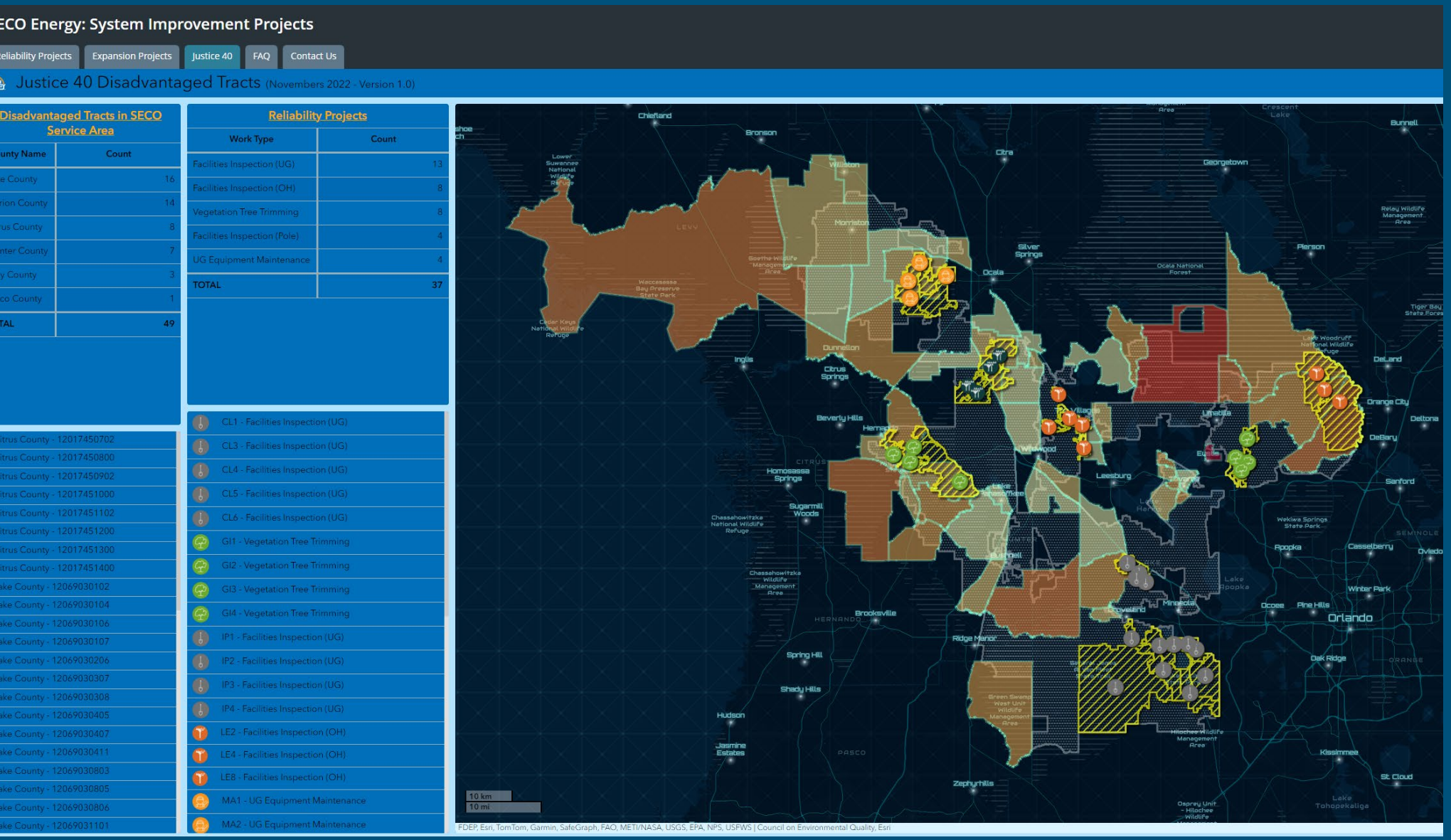
Local-scale solar (5 MWac)

Resiliency-scale storage (5MW/20MWh)

SECO Federal Grant Pursuits Overview

Federal Grant Opportunity	Government Entity	Grant	Direct Pay	Cost Shared	Total
GRIP - Improving Reliability through Grid Hardening	DOE	$52,857,560	-$	$17,619,190	$70,476,750
GRIP - Lake-Sumter Smart Grid Technology Program	DOE	3,657,297	-	3,657,297	7,314,594
Empowering Rural America New ERA	USDA	27,553,860	14,847,876	67,813,705	110,215,441
Solar for ALL Program (Community & Rooftop)	EPA	58,000,000	34,800,000	23,200,000	116,000,000
	Total:	**$142,068,718**	**$49,647,876**	**$112,290,191**	**$304,006,785**

SECO recognizes that the burden of energy costs are heaviest upon those least able to afford upgrades, including public agencies.



Horizontally striped areas meet federal thresholds for indicators of disadvantaged: health, income, pollution exposure, energy cost burden. 30% of SECO's service area is covered.

Community Engagement

Any Questions?

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Moderator - Hon. Milt Doumit, Washington

Hon. Darcie Houck, California
Jeff Deason, Energy and Environmental Policy Researcher, Energy Markets and Policy, Lawrence Berkeley National Lab
John Howat, Senior Policy Analyst, National Consumer Law Center
Curtis Wynn, CEO, Seco Energy

NARUC Summer Policy Summit

Committee Meetings will resume at 2:00 p.m.

Check App for sessions and room names