LA100 Equity Strategies
Advisory Committee Meeting #5
August 24, 2022

LA DWP

NREL
Transforming ENERGY

UCLA

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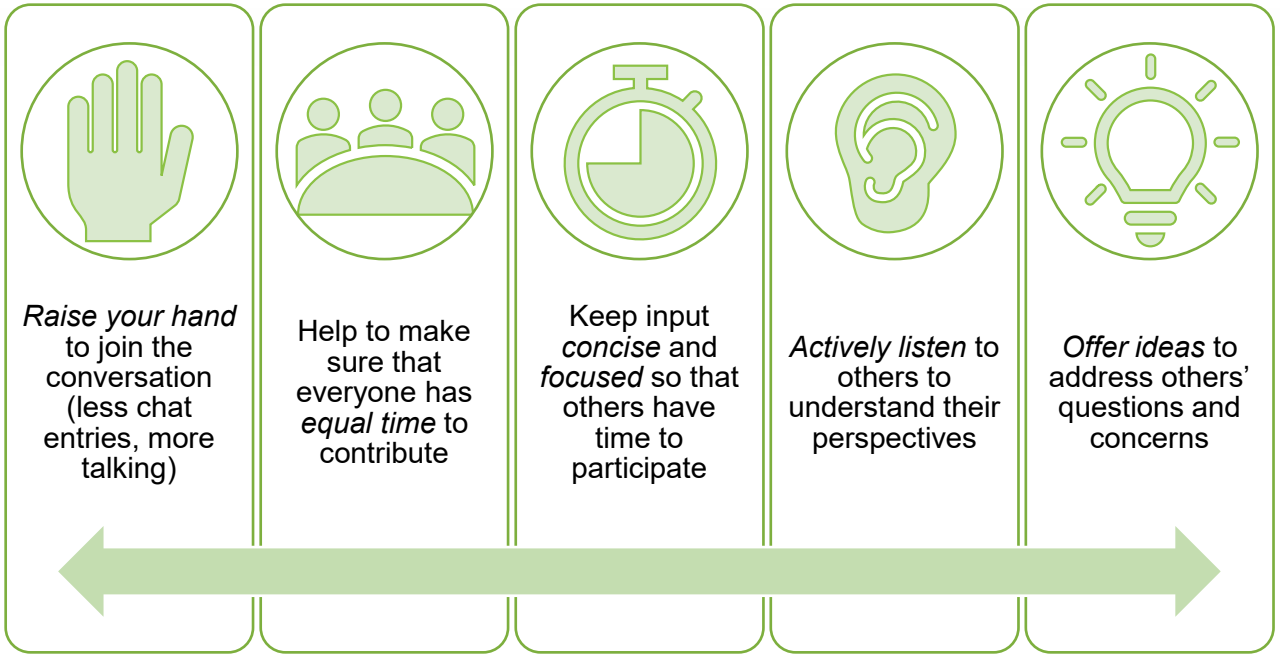
Agenda

Start Time	Item
10:00 a.m.	Welcome
10:05 a.m.	Meeting Purpose and Agenda Overview
10:10 a.m.	Energy Affordability and Policy Solutions Analysis
11:00 a.m.	Breakout Group Discussions: Key Takeaways from Steering Committee for *Modeling, Analysis, and Strategy Development*
11:55 a.m.	Wrap Up and Next Steps

Our Guide for Productive Meetings



Energy Affordability and Policy Solutions Analysis

Greg Pierce, Rachel Sheinberg and Paul Ong
UCLA Luskin Center for Innovation (LCI)
UCLA School of Law
UCLA Center for Neighborhood Knowledge

Affordability, rates and revenue

Customer affordability is among the most key considerations identified throughout the LA 100 ES process, and broader LADWP equity conversations

- The LA 100 transition cost necessitates additional utility *revenue*
- Revenue is primarily recovered through *rates* paid by customers
- Affordability refers to customers' ability to pay their bill, the bulk of which reflects rates
  - Rate (re)design is a primary but not the only affordability policy instrument
  - Folding in of building and transport electrification costs into LADWP bill heightens affordability concerns

LCI's Three Affordability Analyses

Task 1. Structural and Baseline Affordability Considerations

- Assembling existing data sources to assess structural energy affordability and considerations for households across LADWP territory and utility itself

Task 2. Energy Affordability Metrics

- Identifying and analyzing goals and metrics to inform actionable plans

Task 3. Energy Affordability Policy Options

- Identifying and analyzing priority policy options to inform actionable plans

Deliverables

- Each task will result in the equivalent of a report chapter, as well as briefs

Methods and Approach

General Approach

- LCI is synthesizing data from 4 types of sources: existing quantitative data, academic literature, published reports, and stakeholder input
- Complements NREL modeling emphasis, UCLA Law rate structure focus

Goals

- Focus on fewer, meaningful goals and policies, building on internal efforts
- Work with partners to set up a long-term data, analysis, and strategy architecture
- Consider but do not be entirely constrained by legal challenges

Baseline Affordability Considerations

Guiding Research Questions

- What do we (not) know about the transition cost and its impact on rates?
- What are the implications of current rate/bill structure for in-need customers?
- What are prevailing consumption/billing levels among in-need customers?
- What is general and specific points of in-need customer satisfaction with LADWP?
- What is prevailing enrollment in assistance programs among in-need customers?
- Are there barriers to procedural equity in assistance program enrollment?
- What is the ability of in-need customers to maintain thermal comfort?
- How do tenant-landlord split incentives affect customers now and in the transition?

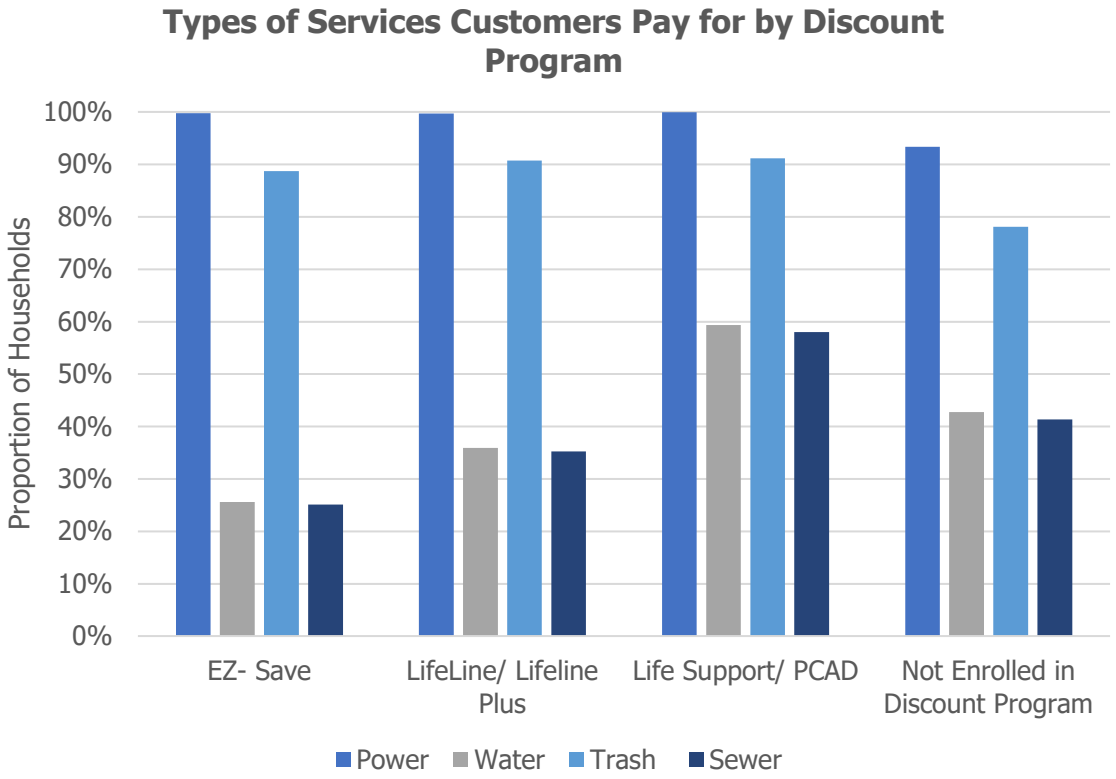
Baseline Affordability Considerations

Data Sources

LCI is using available, representative or census-type data sources that support this assessment, including:

- Survey data from Loyola Marymount University and UCLA
- The California Energy Commission's RASS,
- LADWP CSD Service and Program Enrollment Data,
- The UCLA CCSC Energy Atlas (pending)
- NREL Model data (pending)
- OPA, City Controller several other recent city focused reports

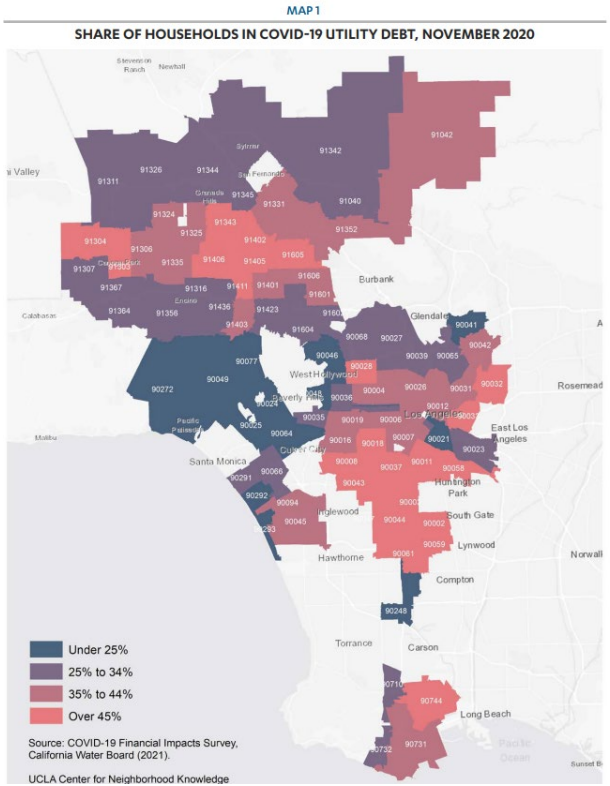
Considerations: Whole Bill Matters



Source: Calculation based on LADWP Service and Program Enrollment Data

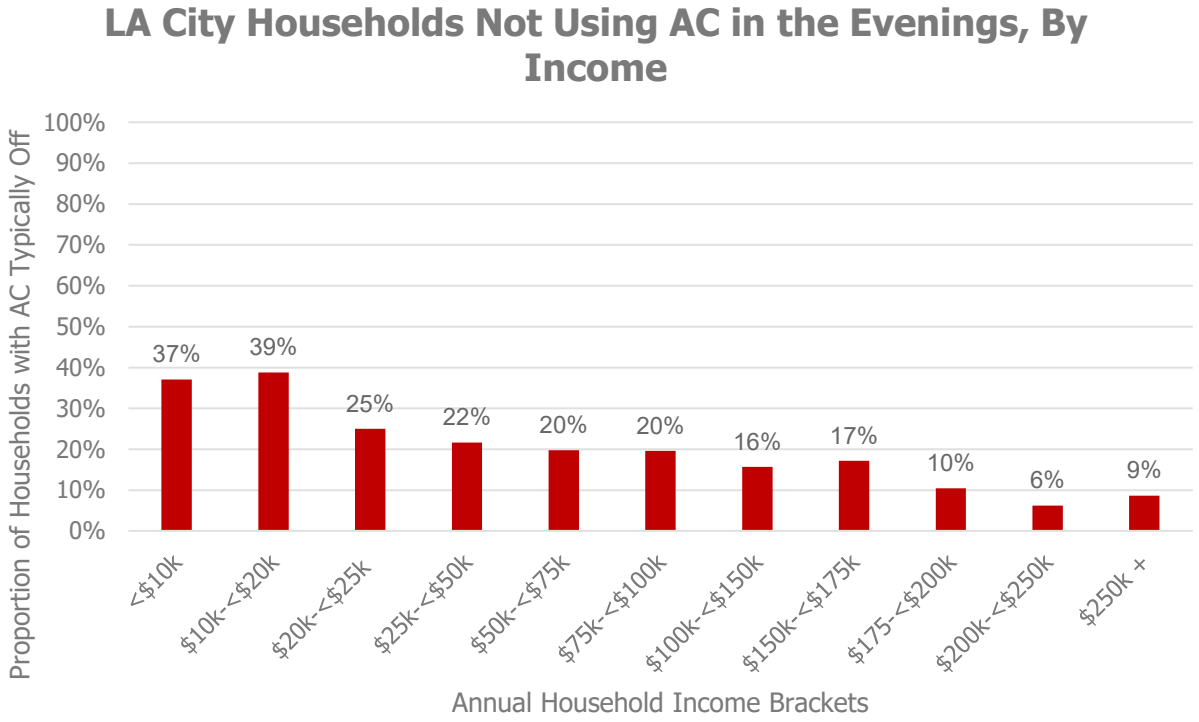
- The whole bill matters for affordability
- There are 15 combinations of the 4 services that can be on an LADWP bill
- The most common are:
  - Power only
  - Power & trash
  - Power, water, sewer & trash

Considerations: Inequitable debt burden



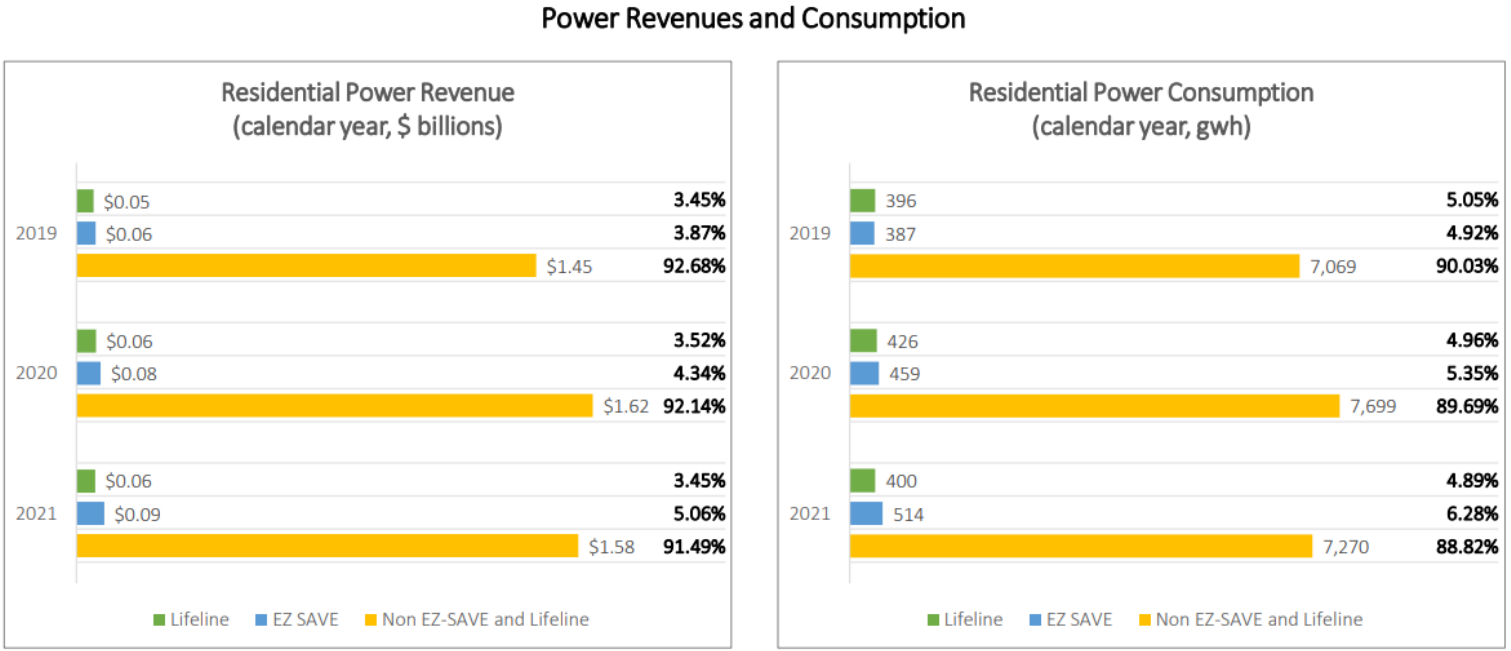
Source: Keeping the Lights and Water on: Covid-19 and Utility Debt in Los Angeles' Communities of Color (2021). Silvia R. González, Paul M. Ong, Gregory Pierce, and Ariana Hernandez. UCLA Centers for Neighborhood Knowledge and Luskin Center for Innovation

Considerations: AC Under-Consumption



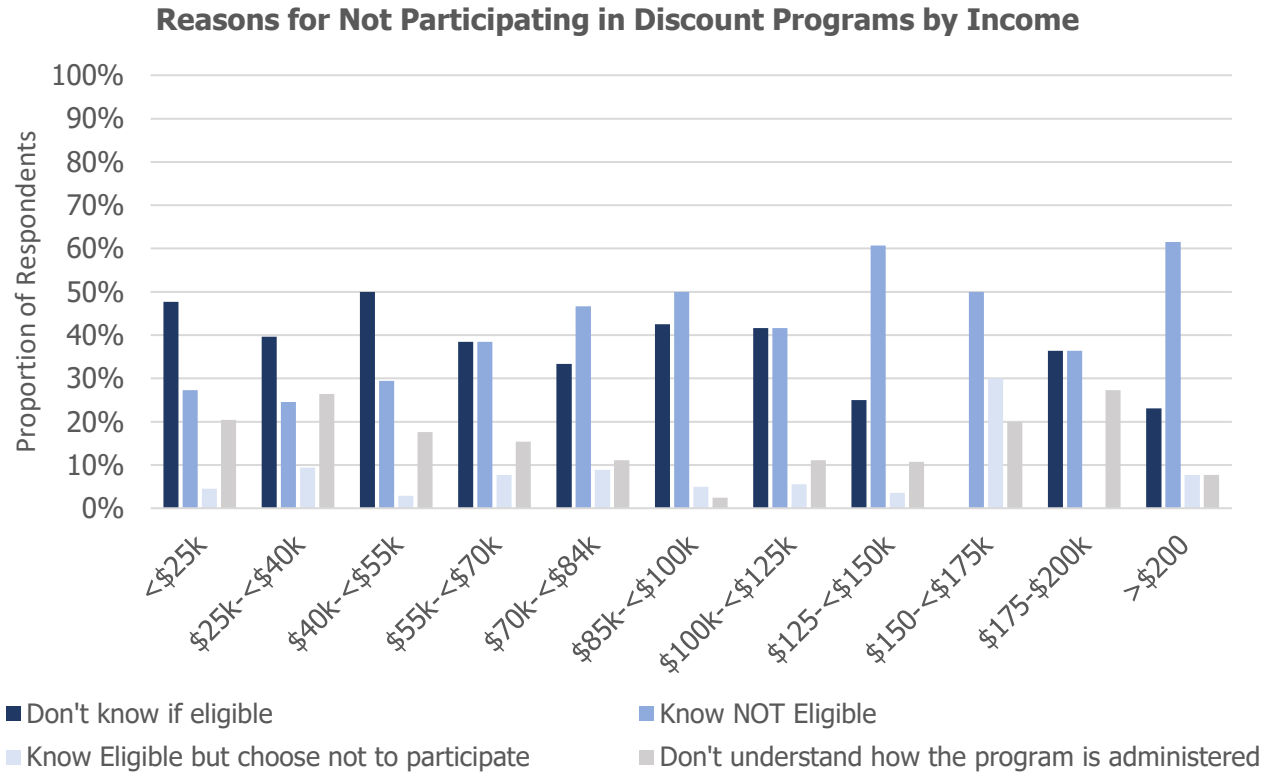
Source: CEC's 2019 Residential Appliance Saturation Survey (RASS)

Considerations: Revenue Impacts



Source: LADWP CSD and FSO Estimate

Considerations: Program Barriers



Source: Loyola Marymount University Survey Data

Metrics in 1st stage analysis

Concept	Description (potential goal)
Bill discount enrollment	30% discount on electricity portion of LADWP bill
Electricity burden/ Percentage of Income Payment Plan	Limit “in need” household expenditure on electricity to 4- 6% of pre-tax income
Household-based energy budget	Lowest rate tier set at level above necessary household consumption level
Shutoffs due to non-payment	Reduction or elimination in residential customer shutoffs
Thermal comfort	# of households reporting they can(not) keep their indoor space cool
Rating of electricity service based on cost	# of in-need households rating their service as ‘poor’ on cost basis
Electricity Insecurity	# of households reporting they need to make tradeoffs between paying electric bill and other essential services
Electricity use intensity	Unclear precedent. Helps get at equitable efficiency and use v. end service disparities

- **Analyzed by:** example goals, magnitude of impact addressed, impact ability, implementation and tracking feasibility, downsides, and precedents
- **Data:** academic literature, report review, and precedent of use by other utilities
- **Next steps:** narrow to 2-4 metric concepts for deeper analysis

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Metrics Discussion

- Which metrics are a priority to consider to track progress on affordability?
- Are there metrics which we missed, or should be discarded?

Policy Categories in 1st-Stage Analysis

- **8 policy categories analyzed by:** policy mechanism, LADWP offerings and other relevant policy models, barriers to enrollment and scaling up, and impact of policy approach
- **Data:** primary data, academic literature, reports, and comparative utility offerings review (alongside Law analysis)
- **Next steps:** narrow to 3-5 policy options for deeper analysis

Policy Categories in 1st-Stage Analysis

Policy/Program	LADWP Offerings	Barriers to Enrollment/ Scaling	Magnitude of Impact
Appliance Energy Efficiency			
Structural Energy Efficiency			
Demand Response			
Direct Assistance and Crisis Relief			
Microgrids			
Rate and Billing Design			
Community Solar			
Rooftop Solar and NEM			

Affordability priorities for stage 2 analysis
(Results of UCLA polling @ July Steering Committee)

Ranking	8 Metrics (16 responses)	8 Policies (11 responses)
Most popular	• Shutoffs due to non payment • Bill discount enrollment	• Direct assistance and crisis relief • Rate and billing design • Structural efficiency
Moderately popular	• Thermal comfort • Electricity insecurity	• Community solar
Mixed opinion	• Electricity burden • Household-based energy budget	• Rooftop solar • Appliance efficiency
Least popular	• Rating of electricity based on service cost • Electricity use intensity	• Microgrids • Demand response

Policies Discussion

- Which policies are a priority to consider to effect progress on affordability?
- Are there policy options which we missed, or should be discarded?
- What type of further analysis would you like to see on the prioritized policies and metrics?

Rate Structure Analysis for Affordability and Distributed Energy Access

Exploring Electricity Ratemaking for Affordability, Access, and DER Implementation

Lead: UCLA School of Law; Dr. William Boyd and Rachel Sheinberg

Goal: Inform how LADWP can implement and adapt to carbon-free energy in a way that does not further existing distributional injustices

Research Questions:

How can creative ratemaking be utilized to protect Low-Income residents from increasing energy costs?

How will LADWP's business model be impacted by increasing renewable penetration?

Tasks:

Create a high-level portfolio of rate design and utility financing strategies informed by other states' and countries' programs

Analyze impacts of potential rate structures on bills using the energy atlas and NREL modeling

Rate Structure Analysis for Affordability and Distributed Energy Access

Discussion Questions

Are there affordability programs that have been mentioned today or from other utilities that we should explore further?

How do you think that rate structures such as time-of-use pricing, where electricity cost varies throughout the day, would be received by your communities? Would a changing price create additional burden on residents?

Small Business Affordability

Assessing Energy Affordability Barriers and Opportunities for Ethnic Minority-Owned Small Businesses (MOBs)

Lead: UCLA Latino Policy and Politics Institute; Drs. Paul M. Ong & Silvia R. González
Leverages larger research project focused on California's ethnic businesses

Goal: formulate evidence-based policy recommendations that promote an equitable clean energy transition for racial/ethnic minority small businesses

Tasks:

1. Analysis of secondary and administrative data to identify minority-owned businesses to assess their current energy use
2. Assessment of participation in previous DWP energy savings programs
3. Design, test, and administer a survey of minority-owned businesses in Los Angeles with support from small business serving community-based organizations

Small Business Affordability

Assessing Energy Affordability Barriers and Opportunities for Ethnic Minority-Owned Small Businesses

Survey Data Collection

- **10-15 minutes**
- **Phone, internet, and in-person** in partnership with small business serving CBOs
  - Citywide
  - Prioritize ethnic economic enclaves
- **Key Modules**
  - COVID impacts and access to relief programs
  - Sustainability practices
  - Structural elements of energy burden

Small Business Affordability

Discussion Questions

- Are there particular issues facing minority-owned businesses which we should consider further examining?

- Are there other organizations that we should contact as part of the survey outreach effort?

Steering Committee Feedback

Highlights of feedback and takeaways for modeling, analysis, and strategy development

Breakout Group Discussions

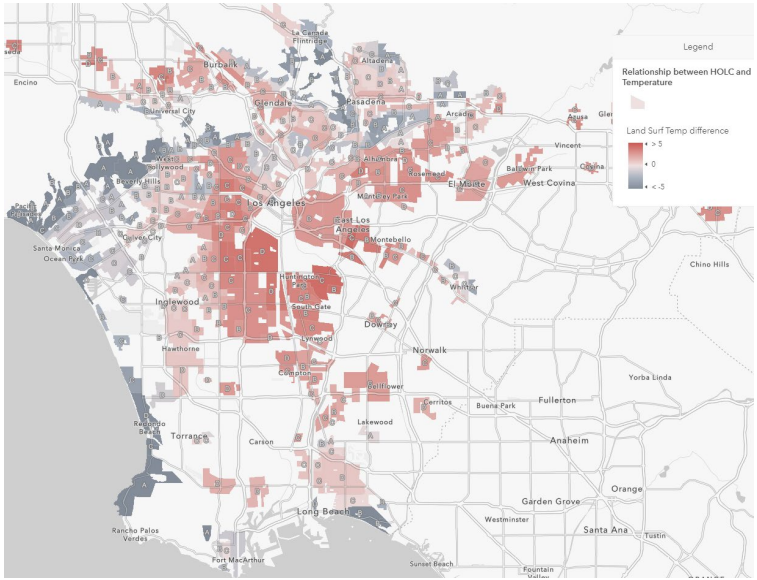
Would you add any other considerations?

Do you have thoughts on the feasibility of these pathways?

Do these align with your agency's initiatives and goals?

Buildings

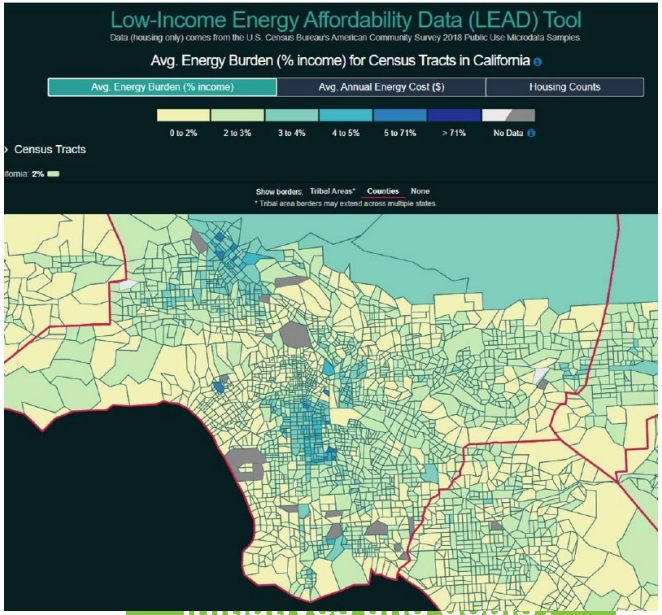
Feedback	Key Takeaways for Modeling
Success includes ensuring renters—particularly low-income renters—access upgrades, savings, and benefits (e.g., cooling, safe temperatures, safety).	Evaluate technology, billing, deployment strategies to increase access to home cooling, solar/storage, EV charging, energy efficiency in multifamily and renter-occupied buildings.
Focus on the elderly and most vulnerable for excessive heat in homes. Frame as “thermal comfort,” not cooling.	Focus on universal thermal health and safety by analyzing indoor temperatures under various scenarios, not just cooling system access.
Strategies should prioritize cooling deployment in heat island areas.	Overlay thermal health and safety modeling results with heat exposure maps for program design prioritization.
Do not penalize cooling when needed most.	Strategies will avoid penalizing lower-income households for using energy to maintain safe temperatures when it’s hot or cold



Source: The Effects of Historical Housing Policies on Resident Exposure to Intra-Urban Heat: A Study of 108 US Urban Areas. https://www.mdpi.com/2225-1154/8/1/12/htm
Map: https://www.arcgis.com/apps/dashboards/73e329457b6644e7aeff13ecce43c8d8

Affordability and Rates

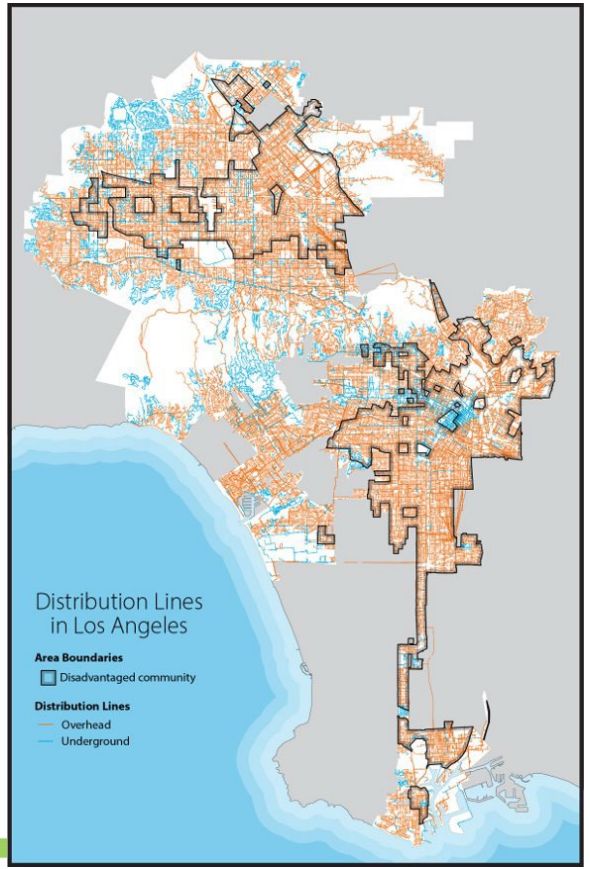
Feedback	Key Takeaways for Modeling
Strategies should include: -Income-adjusted rates -Maximum bill as share of income -Expanding existing program participation -Technology-install approaches	Model suggested strategies
Consider whole costs to the customer (i.e., trash, water, power, housing, and gas)	Include gas and water costs, explore feasibility of including trash services in final bill estimation and analysis.
Consider household size—energy use increases with multiple families in same dwelling	Model adaptable retail tariffs that change based on number of people in the home
Anticipate administrative barriers to income-adjusted rates (i.e., collecting income data)	Model increased program costs due to administrative barriers



Source: Low-Income Energy Affordability Data Tool. Average Energy Burden (% income) for Census Tracts. https://www.energy.gov/eere/slsc/maps/lead-tool.

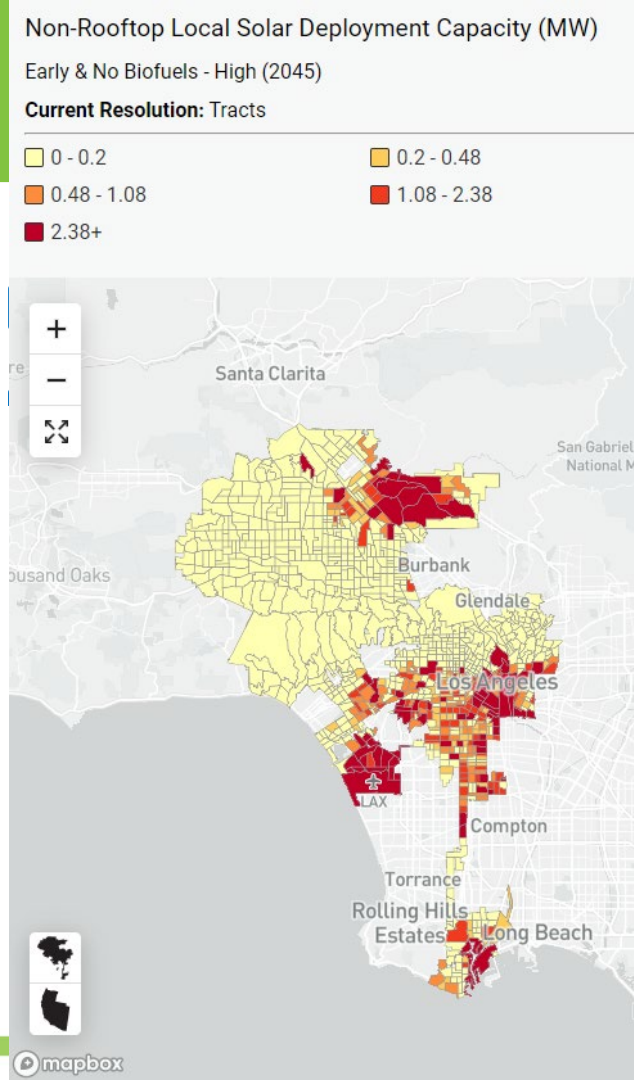
Grid Reliability and Resilience

Feedback	Key Takeaways for Modeling
Note parts of the grid, especially in DACs, already require upgrades	Incorporate today's required upgrades with upgrade schedules that prioritize DACs
Prioritize resilience hub-type opportunities (e.g., community centers) for cooling, vehicle and phone charging, potentially water purification above "cooling centers."	In-home or other close-to-the-customer solutions will be prioritized.
Older electrical panels/wiring in disadvantaged homes is a bigger challenge than grid reliability.	Include scenarios with and without electrical panel upgrades as part of the scenario sets.



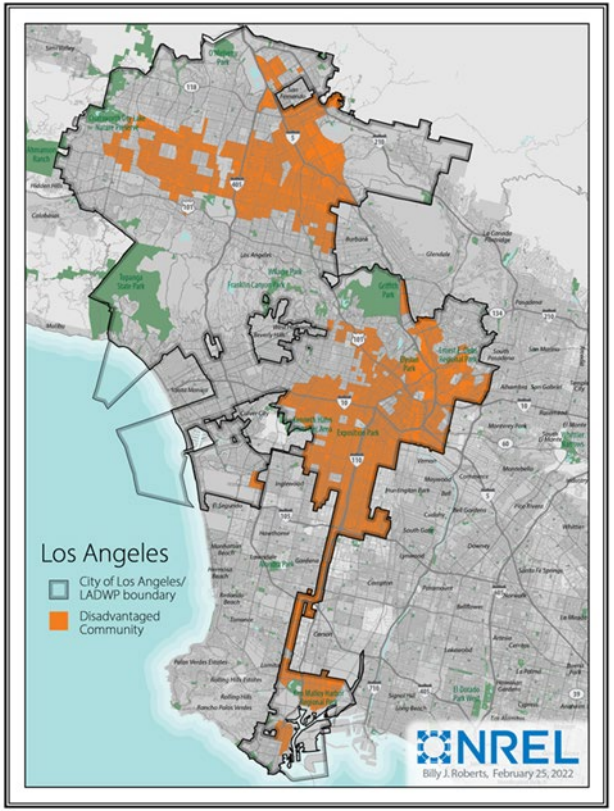
Local Solar and Storage

Feedback	Key Takeaways for Modeling
Consider DAC utility bill savings, particularly renters, as a primary measure of success.	Designate utility bill savings across status groups as a key metric.
Financing, funding to pay the utility bills, and subsidizing bills are options worth considering.	Include on-bill financing as part of the scenario analysis.
Don't use rebates; just lower the cost of installation.	Rebates will not be considered. Incentives that lower the cost of installation will be considered in scenario analysis.
Shared community solar is a good option if compensation is equitable.	NREL will analyze the economics of community solar and siting options.



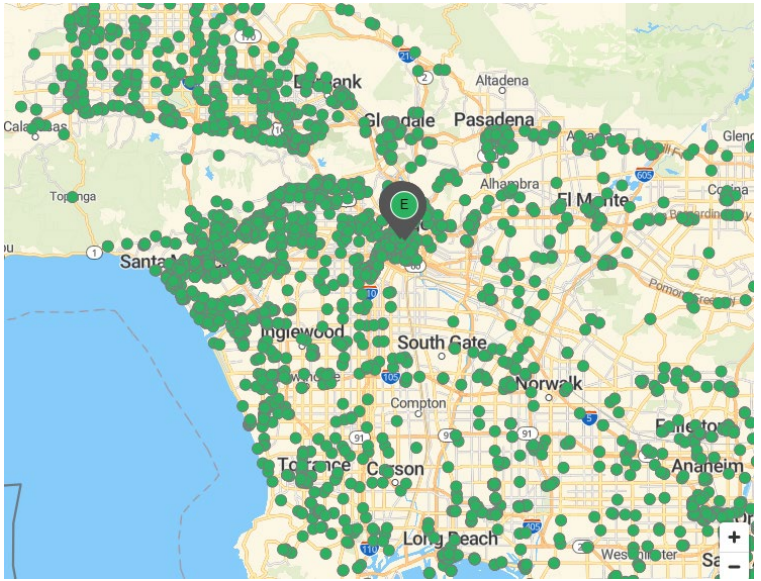
Truck Electrification Air Quality and Health Impacts

Feedback	Key Takeaways for Modeling
Use multiple criteria (e.g., air quality related to vehicle emissions, high rates of asthma) to prioritize areas to model	Study several metrics to measure impacts on disadvantaged communities (DAC) & create a traffic-affected DAC definition
Consider truck idling, freeway corridors, and port/ airport air quality and health impacts	Truck electrification analysis will focus on neighborhoods most impacted by medium- and heavy-duty truck traffic



Transportation (light duty vehicle focus)

Feedback	Key Takeaways for Modeling
Address electric vehicles (EV) affordability and EV supply equipment (EVSE) access	Model new and used EV adoption, home/work charging access, home readiness
Recommend “use” metric to capture affordability, range, parking, access	Include adoption and use rates
Interest in e-bikes and micromobility infrastructure, concern about limited impact on power consumption	Quantify avoided energy use to assess mitigated demand
Consider distribution system limitations on the transition to EVs	Model grid upgrades needed to support equitable electrification



Source: Alternative Fuels Data Center – Electric vehicle charging station locations. https://afdc.energy.gov/stations/#/find/nearest?location=los%20angeles,%20ca&fuel=ELEC

Wrap Up and Next Steps

Upcoming SLTRP Community Meetings

Going Forward

Advisory Committee Meetings

October 26, 2022 Virtual
• Air quality and health impact/medium- and heavy-duty vehicle emissions impact modeling approach • Workforce development • Household energy modeling approach

Discussion on December/January meeting date.

Subsequent Meetings
• **Fourth Wednesday of every other month, 10:00 a.m. – 12:00 p.m. PT** • **Virtual** for near-term

Thank you!