

LA100 Equity Strategies
Steering Committee Meeting #6
April 20, 2022







Los Angeles Department of Water & Power (LADWP) Project Leads



Simon Zewdu Director Transmission Planning, Regulatory, and Innovation Division



Pjoy T. Chua, P.E.
Assistant Director
Transmission Planning, Regulatory,
and Innovation Division



Steve Baule
Utility Administrator
LA100 Equity Strategies Oversight
& UCLA Contract Administrator



Stephanie Spicer Community Affairs Manager



Agenda

Start Time	ltem
10:00 a.m.	Welcome
10:05 a.m.	Meeting Purpose and Agenda Overview
10:10 a.m.	Community Engagement Update Community MeetingsListening Sessions
10:25 a.m.	Prioritized Modeling, Analysis, and Strategy Development Areas
11:25 a.m.	UCLA Energy Atlas
11:55 a.m.	Wrap Up and Next Steps



Our Guide for Productive Meetings



Raise your hand to join the conversation (less chat entries, more talking)



Help to make sure that everyone has equal time to contribute



Keep input concise and focused so that others have time to participate



Actively listen to others to understand their perspectives



Offer ideas to address others' questions and concerns



Steering Committee Roster

Organization	Representative
Alliance of River Communities (ARC)	Vincent Montalvo
City of LA Climate Emergency Mobilization Office (CEMO)	Marta Segura, Rebecca Guerra
Climate Resolve	Jonathan Parfrey, Bryn Lindblad
Community Build, Inc.	Robert Sausedo
DWP-NC MOU Oversight Committee	Tony Wilkinson, Jack Humphreville
Enterprise Community Partners	Jimar Wilson, Michael Claproth
Esperanza Community Housing Corporation	Nancy Halpern Ibrahim
Los Angeles Alliance for a New Economy (LAANE)	Kameron Hurt, Estuardo Mazariegos
Move LA	Denny Zane, Eli Lipmen
Pacific Asian Consortium in Employment (PACE)	Celia Andrade, Susan Apeles
Pacoima Beautiful	Veronica Padilla Campos, Melisa Walk
RePow er LA	Michele Hasson, Roselyn Tovar
The South Los Angeles Transit Empowerment Zone (SLATE-Z)	Zahirah Mann, April Sandifer
South LA Alliance of Neighborhood Councils	Thryeris Mason
Strategic Concepts in Organizing and Policy Education (SCOPE)	Agustín Cabrera, Tiffany Wong



Future Agenda Items Activity

Sample Of Agenda Topics Captured In Miro Activity Automatic enrollment in low-income rate subsidy programs

Ensuring affordable housing preservation

What does engagement and accountability look like after the LA100 ES project is done

Clean drinking water as a social justice/equity issue

All community
engagement
activities (ex.
community
meetings, listening
sessions, surveys,
outreach/education
al resources)

How LA100 equity is guiding SLTRP

Prioritizing affordability

Energy justice metrics and quardrails

How are we using equity metrics

HACLA retrofits for solar energy and DERs

Tenant protections

How can LADWP's EMDI project overlap/intersect with LA100 ES?

Including Future Agenda Items

Tentative Schedule

This Meeting

- Prioritizing affordability in:
 - Strategy pathways analysis
 - Understanding energy burdens

May 18, 2022 *or* June 15, 2022

- Debriefs:
 - Community Meetings
 - Listening Sessions.
- Discuss all community engagement activities.
- SLTRP:
 - How LA100 Equity Strategies is guiding SLTRP
 - Intersection of SLTRP→LA100 ES
 →PSRP→ and EMDI etc.

Future Meetings

- Equity metrics
 - How are we measuring success?
 - Energy justice metrics and guardrails.
 - How are we using equity metrics?
- Future meeting with Technical Leads
 - Where is offshore wind power? Why isn't it part of the future mix?
 - Better real-time information about peak energy use rates to nudge behavior / save money on energy bills.
 - Hydrogen.

What We Heard: Highlights

Community Engagement Update



Two Community Engagement Meetings

Virtual Community Meetings

- February 26, 2022 (English with Spanish translation available)
- March 3, 2022 (Spanish with English translation available)
- · Both currently online for ongoing public viewing

Breakout Session Highlights

- Barriers: Access to Information
 - LADWP should reach people's homes and be more present on the ground in their communities
 - Community center organizers request renewable energy and just transition educational workshops in their communities
- Aspirations: Local Access to Technology
 - See all the benefits of this transition in their minority-majority communities
 - Electric vehicles (EV)
 - Integrated tech: solar panels on public buses & EV chargers
 - Community *workshops* to inspire residents by *visualizing* the future they can co-create

Four Listening Sessions

South LA (March 29, 2022)

- Higher rebates for low-income and senior residents to afford EVs
- Aspiration: Solar in parks and covering parking/bus stops
- Barriers: our communities need education, instruction, information

East LA (March 30, 2022)

- Lower-middle class struggling to pay the bills yet do not qualify for available aid (i.e., programs, services)
- Less complicated program application process

San Fernando Valley (March 29, 2022)

- Poor air quality
- Transparency needed
 - Inaccessible EV incentives: a successful application can still be hindered by personal credit limits
 - Bill cost structure breakdown

Harbor Area (March 31, 2022)

- Air quality compromising health
- More affordable energy and technology
- Lack of EV charging infrastructure

Prioritized Modeling, Analysis, Equity Strategy Development Pathways

Reflecting Steering Committee Feedback



Modeling, Analysis, & Rate Analysis/ **Buildings** Solar & **Reliability &** Transportation Air Quality, Jobs & **Strategy** Workforce Affordability Storage Resilience Health. **Development Environment Development** 費 \$86 Billion ↓54% residential 2,362 MW \$1.4 Billion \$831 Million 80% electric 15,561 in-basin LA100 2035 in annual health 3,594 out-of-basin 366 MW 100% Clean clean energy ↑27% residential **Energy Metrics** - Prioritized equity outcomes, strategy development pathways Community Policy and program knowledge & guidance **Engagement** Today's focus - Procedural justice Distribution grid Sustainable Job training and ResStock modeling of Neighborhood-level dGen modeling of dGen utility bill rate modeling of tra nsportation readiness and air quality modeling all residential **LA100** Equity residential. impact analysis for upgrades required scenario modeling and health-impacts workforce buildings by income, commercial rooftop 600.000+ buildings **Strategies** to support PV, EV to optimize benefits a nalvsis to target standards analysis by income, renter/ renter/owner to and community for DACs adoption, building benefits to DACs solar optimized for optimize efficiency **Modeling and** owner, electricity/ and electrification for natural gas electrification and **Analysis** affordability reliability in DACs Measurable, interim & final distributional justice metrics Metrics **Equity strategies Outcomes**

Topic	Prioritized Equity Strategy Development Pathways	
Rates/ Affordability	Low-income energy bill stability	
Buildings	Universal access to home cooling	
	Building weatherization and resilience to extreme events	
Buildings/Local Solar & Storage	Improve access to solar/storage, energy efficiency in multifamily- and/or renter-occupied buildings	
Local Solar & Storage	Resiliency in disadvantaged neighborhoods through solar-plus- storage siting	
	Targeted community solar siting	
Transportation	Equitable light duty electric vehicle (EV) & charging access	
	Reduced transportation energy burdens	
Reliability/ Resilience	Support electric reliability through distribution grid upgrades to enable solar, storage, and EVs in disadvantaged communities	
Air Quality/Health	Mitigation of medium- & heavy-duty vehicle health impacts	



Rates/Affordability

Low-Income Energy Bill Stability

Steering Committee Kickoff Meeting Vision:

- "Justice first in climate policy"
- "Safe, comfortable homes for all"
- "Low-income energy needs are affordable"
- "Energy efficient low-income homes"
- "Efficiency first"
- "Income-based bills"

Steering Committee Feedback:

- "More 'cost' savings to homeowners"
- "Aligning different program requirements"
- "More direct install programs"
- "Funding assistance for low-income folks"
- "Avoid eviction & affordable housing loss"*
- "Incentives rather than rebates"
- "Incentivized upgrades in older rental properties"



Affordable Transition Customer Programs

Displacement Prevention Targeted
Outreach &
Implementing
Equity



Rates/Affordability

Low-Income Energy Bill Stability

Questions to Be Answered:

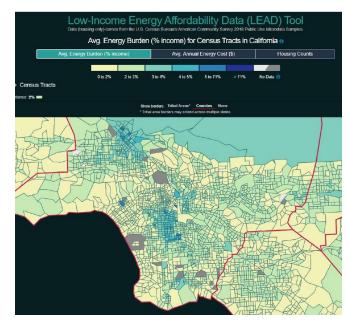
- How will the costs of LA's transition impact low-income household energy bills under a business-as-usual case?
- How can different rate structures, assistance, and other utility programs stabilize bills for low-income households?

Outcomes:

- Develop implementation strategies to stabilize low-income household bills and measure:
 - Impact on customer bill levels by household type (e.g., renter-/owner-, income-tranche)
 - Estimated program cost to LADWP (change in revenues, install costs, indirect costs)

Examples of Steering Committee Guidance:

- Input on which strategies to test alongside UCLA analysis
- Desirable/feasible customer bill levels and program costs



Source: Low-Income Energy Affordability Data Tool. Average Energy Burden (% income) for Census Tracts.

https://www.energy.gov/eere/sls c/maps/lead-tool.



Universal Access to Home Cooling

Steering Committee Kickoff Meeting Vision:

- "Low-income energy needs are affordable"
- "Energy efficient low-income homes"
- "Safe, comfortable homes for all"
- "Equal energy for all"
- "Efficiency first"
- "Justice first in climate policy"

Steering Committee Feedback:

- "More direct install programs"
- "Funding assistance for low-income folks"
- "Electrification should produce & preserve affordable units"
- "Avoid eviction & affordable housing loss"
- "Addressing habitability with energy retrofits"
- "Incentives rather than rebates"
- "Subsidize multi-family affordable housing"
- "Incentivized upgrades in older rental properties"





Health Impact Factors

Customer Programs

Urban Heat Inequity

Health Risks & Opportunities

Public Health / Safety



Universal Access to Home Cooling

Questions to Be Answered:

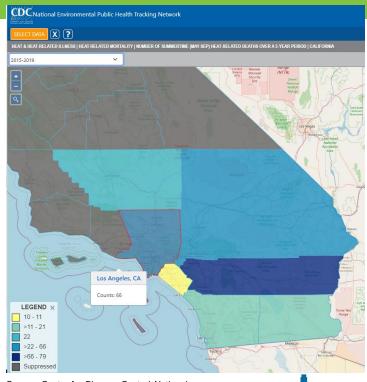
- Where are the intersections of lack of home cooling, vulnerable populations, and lack of public resilience centers?
- What types of housing are most vulnerable to dangerous temperature exposures?
- What are housing-type-specific cooling interventions?

Outcomes:

 Lowest-cost/lowest-bill-increase strategies and buildingtype-, income-level-, neighborhood-, and renter/ownerspecific technology deployment strategies to provide universal cooling access in homes.

Examples of Steering Committee Guidance:

 What are culturally relevant and compelling implementation approaches?



Source: Center for Disease Control National Environmental Public Health Tracking Network. Heat & Heat-Related Illness. https://ephtracking.cdc.gov/DataExplorer/?c= 35&=67&m=-1

Building Weatherization, Thermal Storage, and Resilience to Extreme Events

Steering Committee Kickoff Meeting Vision:

- "Low-income energy needs are affordable"
- "Energy efficient low-income homes"
- "Safe, comfortable homes for all"
- "Healthier energy without displacement"
- "Efficiency first"

Steering Committee Feedback:

- "Subsidize multi-family affordable housing"
- "Incentivized upgrades in older rental properties"
- "Addressing habitability with energy retrofits"

Affordable Transition Customer Programs

Distribution of Risk

Health Risks & Opportunities Urban Heat Inequity





Building Weatherization, Thermal Storage, and Resilience to Extreme Events

Questions to Be Answered:

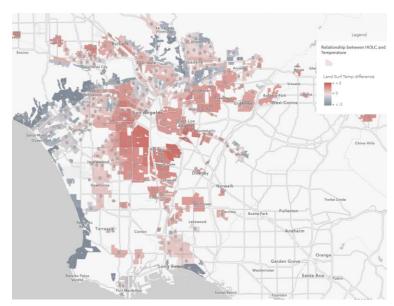
- What types of homes and neighborhoods have the least access to cooling?
- What are the most effective weatherization interventions to prevent dangerous in-home temperatures and associated health risks in an outage situation?

Outcomes:

 Optimized weatherization interventions by housing type to prevent health risks in extreme events.

Examples of Steering Committee Guidance:

 What are culturally compelling implementation approaches to deploy life-saving weatherization interventions?



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/73e 329457b6644e7aeff13ecce43c8d8

Buildings/Local Solar & Storage

Improve Access to Solar/Storage, Energy Efficiency in Multifamily and/or Renter-Occupied Buildings

Steering Committee Kickoff Meeting Vision:

- "Low-income energy needs are affordable"
- "Energy efficient low-income homes"
- "Safe, comfortable homes for all"
- "Healthier energy without displacement"
- "Efficiency first"

Steering Committee Feedback:

- "More direct install programs"
- "Funding assistance for low-income folks"
- "Electrification should produce & preserve affordable units"
- "Avoid eviction & affordable housing loss"
- "Addressing habitability with energy retrofits"
- "Incentives rather than rebates"
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Buildings/Local Solar & Storage

Improve Access to Solar/Storage and Energy Efficiency in Multifamily and/or Renter-Occupied Buildings

Questions to Be Answered:

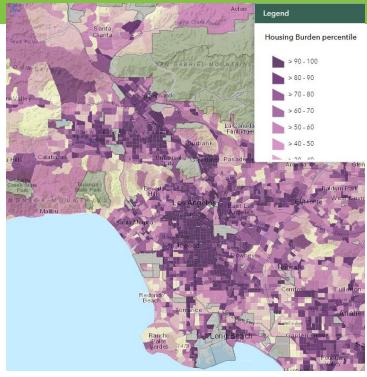
- What type of programs, tariffs and subsidies are likely to be successful in improving access to solar/storage and energy efficiency in multi-family or renter-occupied buildings?
- What suites of building-type-specific technology and efficiency interventions would deliver the highest cost savings?

Outcomes:

 Optimized strategies and metrics for solar, storage, and efficiency interventions that deliver the greatest cost savings in renter-occupied and/or multi-family homes.

Examples of Steering Committee Guidance:

 What are the main challenges to installing solar, storage, and energy efficiency in multi-family or renter-occupied buildings aside from affordability and split incentives?



Source: CalEnviroScreen 4.0 Housing Burden Indicator Map.

https://experience.arcgis.com/experience/ed5953d89038431dbf4f22ab9abfe40d/page/Indicators/?views=Housing-Burden



Increase Resiliency in Disadvantaged Neighborhoods through Targeted Solar-Plus-Storage Siting

Steering Committee Kickoff Meeting Vision:

- "Low-income communities benefit from green energy transition"
- "Low-income energy needs are affordable"
- "Solar+ roof & electric panel upgrades"

Steering Committee Feedback:

- "Strategy to utilize curtailment through storage"
- "Backup power in the basin for disruption periods"
- "Backup: Batteries, looking at different fuel alternatives"
- "Focus on regions prone to wildfires"

Affordable Transition

Customer Programs

Distribution of Risk

Health Risks & Opportunities

City/LADWP Infrastructure Investment 6 Poll Ranking









Increase Resiliency in Disadvantaged Neighborhoods through Targeted Solar-Plus-Storage Siting

Questions to Be Answered:

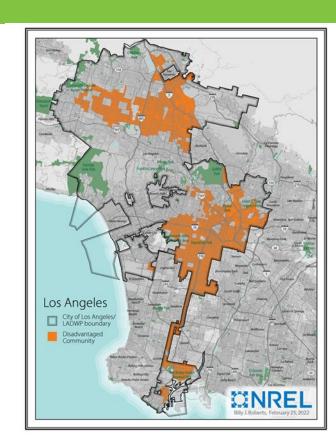
 Where and how can solar and storage be deployed to increase the hours/days of electricity service in an outage situation in disadvantaged communities?

Outcomes:

Strategies for equitable solar and storage deployment

Examples of Steering Committee Guidance:

 What types of solar-plus-storage deployment programs would be most effective in serving disadvantaged communities?



Targeted Community Solar Siting

Steering Committee Kickoff Meeting Vision:

- "Low-income energy needs are affordable"
- "Low-income communities benefit from green energy transition"
- "Healthier energy without displacement"
- "Sustainable programs"

Steering Committee Feedback:

- "Rooftop solar location maybe less important over time"
- "Structural integrity of older roofs can't support solar"
- "Increase solar/storage options, outreach in low-income communities of color"
- "Increase financial benefits to community solar participants"
- "Rooftop solar maintenance challenges"

Affordable Transition Customer Programs City Infrastructure, Programs, and Policies

Displacement Prevention 10 Poll Ranking









Targeted Community Solar Siting

Questions to Be Answered:

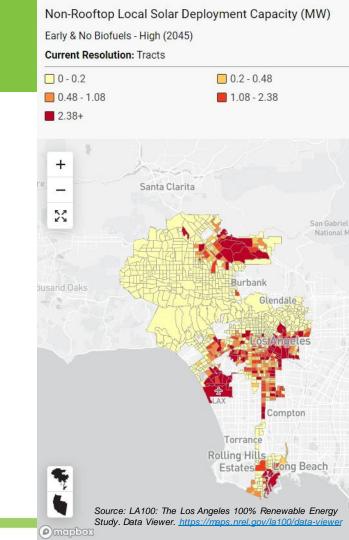
 What specific locations could host community solar with storage and deliver cost savings and electricity reliability in disadvantaged communities?

Outcomes:

 Community solar siting and strategies for reducing energy costs in disadvantaged communities.

Examples of Steering Committee Guidance:

Site prioritization.



Transportation

- Equitable Electric Vehicle (EV) & Charging Access
- Reduced Transportation Energy Burdens

Steering Committee Kickoff Meeting Vision:

- "Low-income energy needs are affordable"
- "Low-income communities benefit from green energy transition"
- "Equal energy for all"
- "Pollution reduction from underserved community investments"

Steering Committee Feedback:

- "EV sharing programs"
- "EV charging stations distributed equitably across communities"
- "Set up low-income communities for EV infrastructure"
- "Electric bikes," "Scooter access"
- "Active transportation routes around transmission lines/corridors"

Affordable Transition Customer Programs City Infrastructure, Programs, and Policies

Health Impact Factors 9,11
Poll
Ranking







Transportation

Equitable Electric Vehicle (EV) & Charging Access

Reduced Transportation Energy Burdens

Questions to Be Answered:

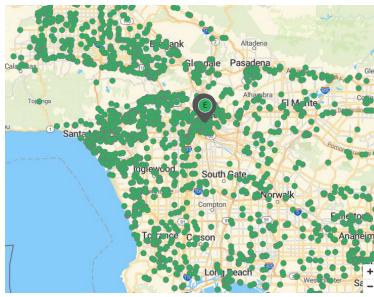
- What would a *business-as-usual*, *economic EV adoption* scenario look like versus an *equitable adoption model*?
- What are the *electrical loads* associated with equitable EV adoption and access and EV charging infrastructure distribution?
 - Feeds into electricity system upgrades needed to support equitable EV access and charging needs.
- What is the potential for *increased multimodal electric mobility* (i.e., bikes, scooters, car share)?
 - What are the energy cost and demand savings?

Outcomes:

- Strategies to equitably achieve high EV ownership and access
- Strategies for equitable EV charging infrastructure access
- Strategies for reducing transportation energy costs for low-income households.

Examples of Steering Committee Guidance:

Input on critical factors limiting e-bike, e-scooter, car-share access



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

Reliability & Resilience

Support Electric Reliability and Enable Solar, Storage, and Electric Vehicles in Disadvantaged Communities through Distribution Grid Upgrades

Steering Committee Kickoff Meeting Vision:

- "Low-income communities benefit from green energy transition"
- "Equal energy for all"
- "Inclusive energy future"

Steering Committee Feedback:

- "Ensure investment in most pollution-burdened communities"
- "Need EV infrastructure in ALL communities"
- "Real time information on energy sources to lower-income households"

Distribution of Risk

City Infrastructure, Programs, and Policies Health & Environmental Infrastructure Strategies

Health Risks & Opportunities

Reliability

City/LADWP Infrastructure Investment









Reliability & Resilience

Support Electric Reliability and Enable Solar, Storage, and Electric Vehicles in Disadvantaged Communities through Distribution Grid Upgrades

Questions to Be Answered:

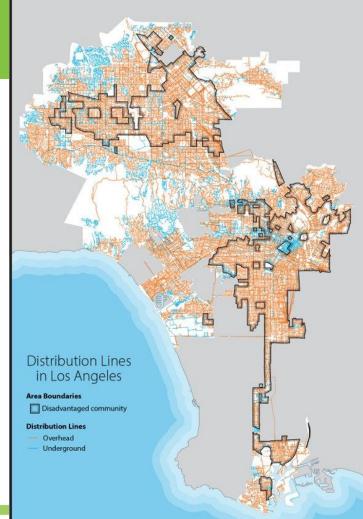
- What infrastructure investments are needed to ensure equitable electricity reliability and support solar, storage, and electric vehicle adoption in underserved communities?
- What are the associated costs and avoided costs?

Outcomes:

 Answers will inform equitable prioritization of LADWP electric distribution system investments.

Examples of Steering Committee Guidance:

- What aspects of today's electric infrastructure represent barriers for disadvantaged communities' path to 100%?
- Considering an electrified future, what are equitable electric service priorities during a disaster or other resiliency event?



Air Quality & Public Health

Mitigation of Medium- & Heavy-Duty Vehicle Health Impacts

Steering Committee Kickoff Meeting Vision:

- "Low-income communities benefit from green energy transition"
- "Pollution reduction from underserved community investments"
- "Justice first in climate policy"

Steering Committee Feedback:

- "Power generation pollutes less than transportation"
- "Biggest health danger from transportation"
- "Ensure investment in most pollution-burdened communities"
- "Electrifying transportation will reduce GHGs"
- "Failure to meet federal air quality standards could lead to federal transportation funding loss"

Distribution of Risk

City Infrastructure, Programs, and Policies Health & Environmental Infrastructure Strategies

Health Risks & Opportunities Health Impact Factors

Air Quality

13
Poll
Ranking







Air Quality & Public Health

Mitigation of Medium- & Heavy-Duty Vehicle Health Impacts

Questions to Be Answered with NREL and UCLA collaboration:

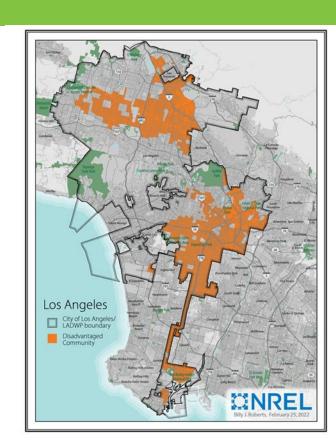
- Electrification of *which types of trucks* and *where* would provide the greatest health benefits in disadvantaged communities?
- Will *truck* or *car electrification* provide greater air quality and health improvements in disadvantaged communities?

Outcomes:

 Answers will inform truck electrification incentives and program targeting, and infrastructure investment locations and sequencing.

Examples of Steering Committee Guidance:

- Which neighborhoods and roads should be prioritized?
 - Feedback from Steering Committee meeting #5: major freeways, Ports/LAX corridors, Wilmington, Pacoima, South LA
 - Additional suggestions welcome.



Building Energy Use, Household Energy Burdens, & Electrification Barriers

Stephanie Pincetl, PhD Felicia Federico, PhD Eric Fournier, PhD

California Center for Sustainable Communities (CCSC)



Team History & Values

- CCSC's mission is science in the public interest, and to work for social and environmental justice
- We are dedicated to working with communities to shape our work, using our expert knowledge to address issues of concern in communities, in a collaborative and interactive way, around building energy use, thermal comfort, indoor and outdoor air pollution, and most significantly, inequality.



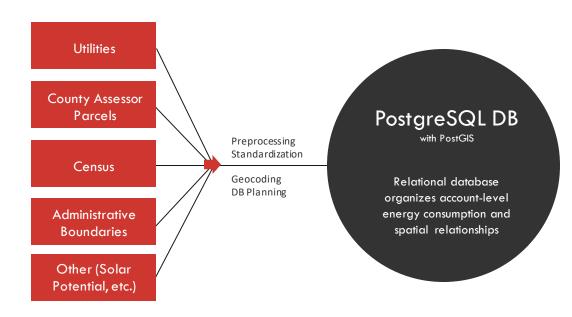


Team History & Values

- Our team has more than 10 years experience working closely with LADWP and other Southern California utilities to develop the UCLA Energy Atlas.
- The Energy Atlas is a long-term research project that combines account level energy usage data with building attributes, socio-demographic features, and other information to better understand distributional inequities in the energy system.
- We use Energy Atlas data to create publicly facing websites, maps, and tools that are designed to support Local Governments and Community Based Organizations who are active in promoting a more just energy transition.
- We also perform detailed quantitative analyses for state agencies and other organizations involved with energy system planning and governance.

Energy Atlas Back-End Database

- The Energy Atlas back-end database contains billions of historical monthly usage records, for millions of unique customer accounts. These data span both investor-owned and municipally owned service territories utilities (like LADWP) and cover both electricity and gas consumption.
- These account level energy usage data are considered Personally Identifiable Information (PII). Thus, we have strict cyber-security protocols in place to ensure customer privacy and the integrity of other sensitive data (such as for energy infrastructure).





Energy Atlas Front-End Websites

- CCSC's front-end Energy Atlas
 websites allow the public to
 interactively explore maps and data
 on building electricity and natural gas
 use that have been aggregated to
 different geographic levels
 (neighborhoods, cities, etc.)
- These maps and visualization are derived from account level usage data which allows us to enrich the data with important contextual information about people and place.



https://energyatlas.ucla.edu/



menu ≡

Residential Income

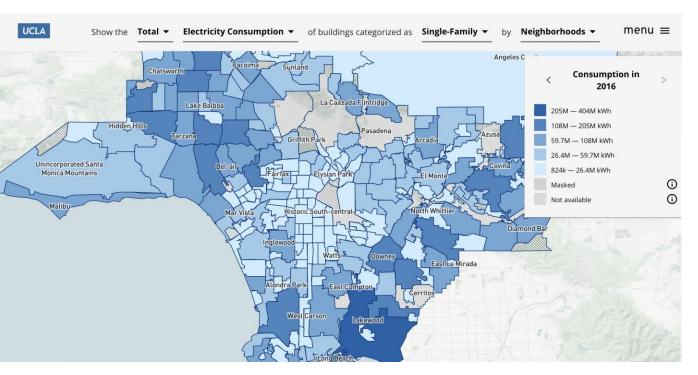
Building

Vintage

Building

Size

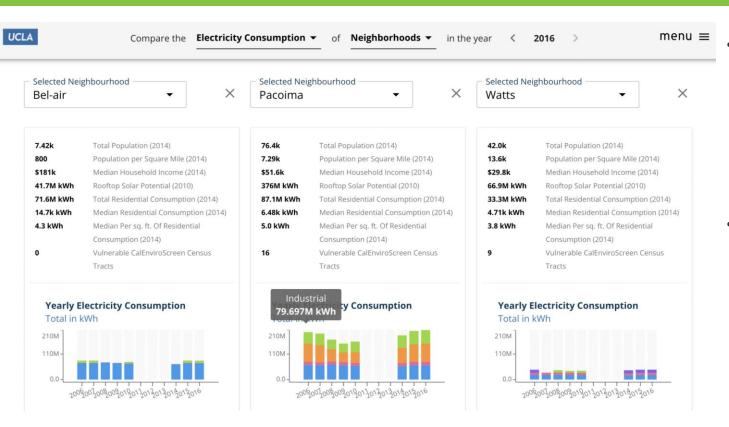
What Can the Energy Atlas Do?



- Map energy usage
 (electricity & gas) by
 county, city, and
 neighborhood throughout
 Southern California.
- View usage by building use-type and vintage categories and normalized per capita and per square foot.
- See changes in all these metrics over time.



What Can the Energy Atlas Do?



- In addition to the maps, we also provide a profile page that allows you to view detailed energy usage profiles for different local areas.
- This makes it easy to directly compare energy usage metrics for different areas and to highlight important disparities.



Other Related Tools

- In addition to the Energy Atlas websites we also develop other tools, which build upon the detailed energy usage data in the Energy Atlas database, to support specific issues related to the energy transition.
- One recent example of this is our Los Angeles County Community Solar Opportunities Map
- This is an interactive mapping tool that was designed in conjunction with local CBOs to facilitate the location and prioritization of sites for Community Solar PV and Resilience Centers specifically within disadvantaged communities in LA County's IOU service territory.



https://solar.energyatlas.ucla.edu/



Integrating CCSC's Work

- Within the scope of this project, CCSC will use its secure computing environment to facilitate the transfer of sensitive customer and system infrastructure data from LADWP to other UCLA researchers.
- We will aggregate and disseminate these data so that the right information gets to the right UCLA research staff in order to support their equity focused analyses.
- The following graphics provide a high-level overview of CCSC's project tasks.
- They show how our work will integrate both tasks that are going to be completed by various NREL teams as well as with those that are planned by other UCLA researchers.



Platform For Maintaining and Sharing Privacy-Protected Project Data

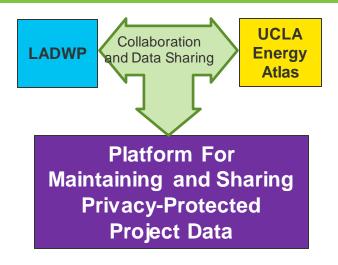
Electrification Of Gas Appliances Analysis & Cross-Validation of NREL Building Models

Electric Service Panel Upgrades Analysis

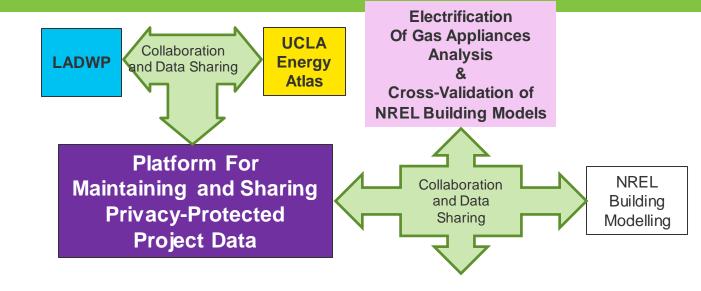
Energy Burden Data Analysis

Small Commercial Energy Use Data Analysis

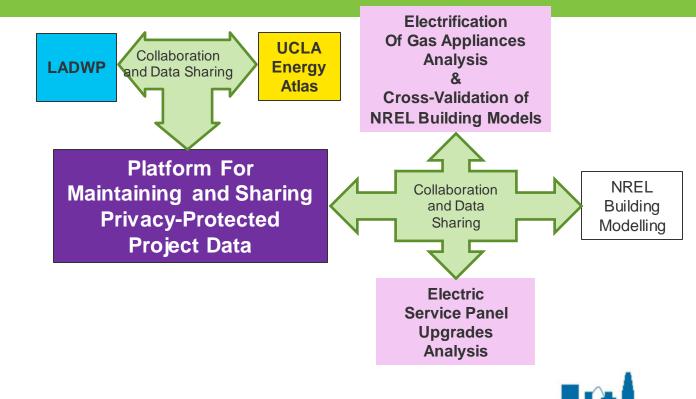


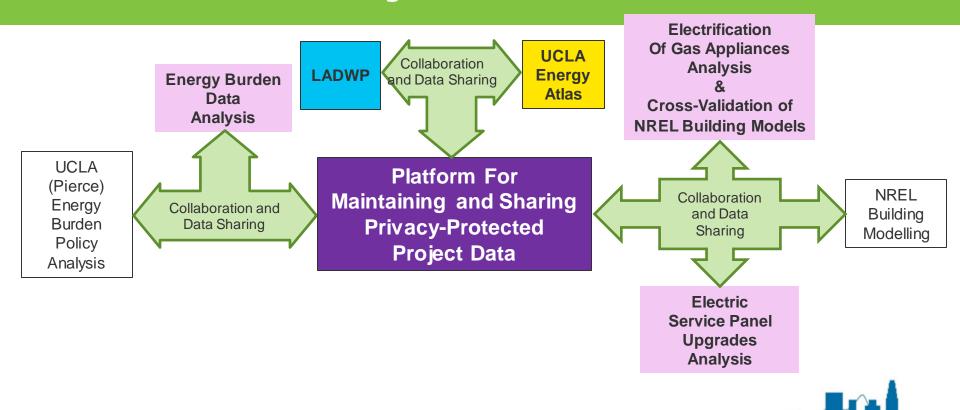


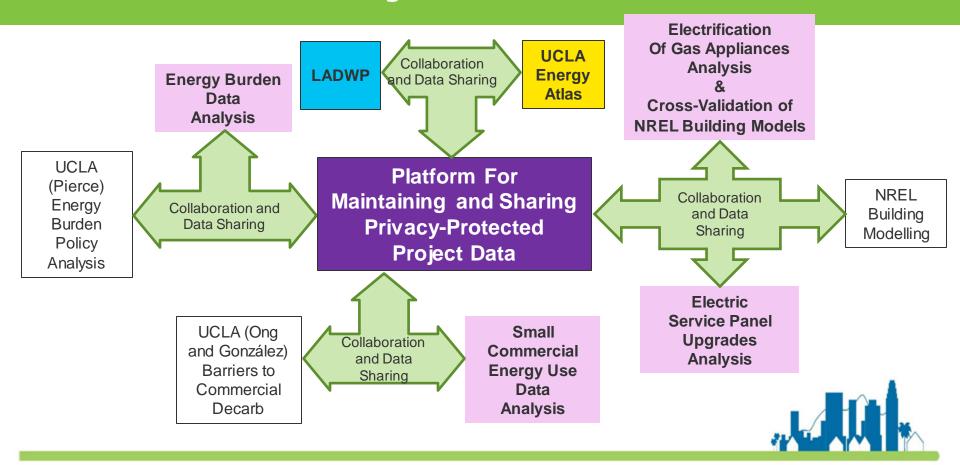












Questions and Feedback

• What analyses and metrics should be considered for energy consumption and billing data?

• What types of data would you like to see become publicly available to support equity strategy implementation?



Wrap Up and Next Steps



Going Forward Tentative

Steering Committee Meetings

May 18, 2022 Virtual

- Summary of what we heard at listening sessions and community meetings
- Analysis of current energy inequities

June 15, 2022 Virtual

- Affordability and jobs
- SLTRP update (tentative)

Subsequent Meetings

- Third Wednesday of each month, 10:00 a.m. 12:00 p.m. PT
- Virtual for near-term



What would you like to discuss in upcoming meetings? Drop your agenda suggestions in the chat!



Thank you!