



Los Angeles 100% Renewable Energy Equity Strategies

Steering Committee Meeting #6

April 20, 2022

Summary¹

Schedule and Location

April 20, 2022, 10:00 a.m. to 12:00 p.m.
Conducted virtually

Virtual Meeting #6 Attendees

Steering Committee Members

Climate Resolve, Jonathan Parfrey
DWP-NC MOU Oversight Committee, Tony Wilkinson
Enterprise Community Partners, Michael Claproth (alternate)
Esperanza Community Housing, Nancy Ibrahim
Los Angeles Alliance for a New Economy (LAANE)/ RePower LA Coalition, Kameron Hurt
Los Angeles Alliance for a New Economy (LAANE)/ RePower LA Coalition, Roselyn Tovar (alternate)
Los Angeles Alliance for a New Economy (LAANE)/ RePower LA Coalition, Estuardo Mazariegos (alternate)
Pacific Asian Consortium in Employment (PACE), Celia Andrade
Pacific Asian Consortium in Employment (PACE), Susan Apeles (alternate)
Pacoima Beautiful, Annakaren Ramirez (alternate)
Pacoima Beautiful, Melisa Walk (alternate)
The South Los Angeles Transit Empowerment Zone (SLATE-Z), Zahirah Mann
South LA Alliance of Neighborhood Councils, Thryeris Mason
Strategic Concepts in Organizing and Policy Education (SCOPE), Augustin Cabrera
Strategic Concepts in Organizing and Policy Education (SCOPE), Tiffany Wong (alternate)

Board of Commissioners

Board President Cynthia McClain-Hill

City of Los Angeles Department of Water and Power (LADWP) Staff

Carol Tucker
Cathleen Chavez Morris
David Castro

¹ This summary is provided as an overview of the meeting and is not meant as an official record or transcript of everything presented or discussed. The summary was prepared to the best of the ability of the notetakers.

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David Rahimian
Dawn Cotterell
Iris Castillo
Jason Rondou
Jay Lim
Mudia Aimiuwu
Pjoy Chua
Ramon Gamez
Simon Zewdu
Steve Baule
Vanessa Gonzalez

Project Team

Ann Thomas, National Renewable Energy Laboratory (NREL)
Bryan Palmintier, NREL
Danny Zimny-Schmitt, NREL
Eda Giray, NREL
Dong-Yeon Lee, NREL
Garvin Heath, NREL
Janet Reyna, NREL
Kate Anderson, NREL
Laura Supple, NREL
Megan Day, NREL
Nicole Rosner, NREL
Paritosh Das, NREL
Patricia Romero-Lankao, NREL
Sonja Berdahl, NREL
Thomas Bowen, NREL
Christian Mendez, Kearns & West
Jasmine King, Kearns & West
Joan Isaacson, Kearns & West
Cassie Rauser, UCLA
Eric Fournier, UCLA
Felicia Federico, UCLA
Greg Pierce, UCLA
Kelly Trumbull, UCLA
Stephanie Pincetl, UCLA
Yifang Zhu, UCLA





Welcome Remarks

Joan Isaacson, facilitator from Kearns & West, welcomed members to the sixth Los Angeles 100% Renewable Energy Equity Strategies (LA100 Equity Strategies) Steering Committee meeting and thanked them for joining. She introduced Simon Zewdu, Director of Transmission Planning, Regulatory, and Innovation Division at LADWP and Project Manager for LA100 Equity Strategies. Simon Zewdu welcomed the Steering Committee members and shared LADWP's appreciation for their participation, noting that the project team has continued to listen and integrate their feedback into the study and proposed strategy pathways. He shared that the LADWP Board of Commissioners is following this effort and the outcomes identified by the Steering Committee and that LA100 Equity Strategies is receiving attention from the Public Power Association and power systems across the country.

Meeting Purpose and Agenda Overview

Joan Isaacson reviewed the meeting agenda (see slide 3 in Appendix). She explained that after an update on community engagement, the majority of the meeting time would be spent discussing the prioritized strategy pathways developed by the project team and with input from the Steering Committee. She stated that UCLA would also present on proposed pathways related to policy design, jobs, and air quality and health. Joan Isaacson reviewed the guides for productive meetings and encouraged members to participate in the discussions, reminding them of the protocol for one representative per organization to have a speaking role in each meeting.

Joan Isaacson shared a tentative schedule that incorporates agenda items proposed by the Steering Committee (see slide 7 in Appendix). For the upcoming meetings on May 18, 2022 and June 15, 2022, proposed topics will include debriefs from the community meetings and listening sessions, a discussion of community engagement activities, and a description of how the LA100 Equity Strategies are considered in the Strategic Long-Term Resource Plan (SLTRP). She also stated that future meetings will include discussions on equity metrics and conversations with National Renewable Energy Laboratory (NREL) technical leads.

Joan Isaacson invited Steering Committee members to provide input on the topics for future agendas. She explained that the agenda for the next meeting will be shared at the end of each meeting and Steering Committee members would be able to share comments and perspectives on the proposed topics.

Community Engagement Update

Paty Romero-Lankao, Equity Strategies Recognition and Procedural Justice Lead from NREL, provided an update on community engagement for the LA100 Equity Strategies. She noted that community meetings took place on February 26, 2022, and March 3, 2022, with one meeting hosted in Spanish with English interpretation. Paty Romero-Lankao gave an overview of highlights from the community meetings. She shared that participants identified barriers related to information access and suggested that LADWP should reach people's homes and be more present in communities. She also noted that community center organizers requested renewable energy and just energy transition educational workshops in their communities. She then highlighted community aspirations such as local access to technology, including





electric vehicles (EVs) and integrated technology such as solar panels on public buses and public EV chargers. Paty Romero-Lankao shared that community members asked for community workshops to inspire residents by visualizing the future that they can co-create.

Paty Romero-Lankao then overviewed the four listening sessions, noting that they were co-designed with community members and adapted to local interests. She explained that the listening sessions focused on South Los Angeles, San Fernando Valley, East Los Angeles, and the Harbor Area, with another meeting to be held next week (April 27, 2022). In South Los Angeles, community members noted the need for higher rebates for low-income and senior residents to afford EVs. The San Fernando Valley listening session focused on poor air quality and the need for transparency on EV incentives and bill costs. In East Los Angeles, Paty Romero-Lankao noted comments about the lower-middle class struggling to pay their energy bills but residents do not qualify for available assistance programs and services. Lastly, she stated that the Harbor Area feedback included concerns about air quality compromising health, the need for more affordable energy and technology, and concerns over the lack of EV charging infrastructure.

Major Themes from Steering Committee Questions and Discussion

- Community members were appreciative of the opportunity to participate in the listening sessions.
- Will there be more details shared about the findings from the listening sessions?
- The focus on affordability related to EVs is important.
- Learning about lower-middle class struggles is valuable for the project.

Prioritized Modeling, Analysis, and Equity Strategy Development Pathways

Megan Day, Distributional Justice Task Lead and NREL Senior Energy Planner, shared that NREL and UCLA are diving deeper into development of the prioritized pathways and the analysis for implementation. She explained that the project team is incorporating Steering Committee priorities into the modeling, analysis, and strategies and reminded them that the LA100 Equity Strategies is based on the modeling done in the LA100 Renewable Energy Study. In addition, Megan Day explained that NREL has been learning about the Steering Committee's perspectives in prior meetings and that the 10 modeling and analysis pathways incorporate Steering Committee visions and feedback for each topic.

Rates/Affordability

Megan Day shared Steering Committee feedback (see slides 14–15 in Appendix) on the rates and affordability topic and how the pathways integrate feedback themes of equitable social-spatial distribution and implementing equity by proposing low-income energy bill stability. She noted that modeling will be done for strategies to stabilize low-income household bills and measure the impact on customer bill levels. Megan Day shared that the project team is interested in Steering Committee input on strategies to test and desirable or feasible customer bill levels and program costs.

Major Themes from Steering Committee Questions and Discussion

- Bill stability is the critical equity issue.



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- Ranking the options was difficult due to the titles of the options.
- Too much money in distributional benefits can take away money to address bill costs.
- In terms of providing rate relief to low-income households, does LADWP's counsel believe there are limitations associated with California law, such as Propositions 26 and 218?
 - Greg Pierce, UCLA: There are limitations posed by California law to some rate and broader affordability strategies. UCLA and NREL will be analyzing both rate and affordability options that would require reform of propositions but also those which do not.
- It would be helpful for committee members to better understand the inherent legal limitations, for example: (1) LA Charter that prohibits local wheeling, (2) allowable projects and costs that can be passed through to ratepayers, or (3) whether other revenue sources are needed for these strategies.
- Despite limitations, what are other options to provide rate relief to low-income communities?
 - Megan Day: The project team may explore income-based bills as opposed to geographically focused impacts. The project team is charged with ensuring energy is justly distributed. Regarding other approaches to rate relief for low-income households, NREL will be modeling bill savings from efficiency, solar, solar plus storage, and technology deployment. NREL will also model programs and approaches to identify optimized strategies for bill savings.

Buildings

Janet Reyna, Technical Lead on Housing and Buildings at NREL, began the overview of proposed pathways for the buildings topic by explaining that the project team is looking at universal access to home cooling, low-income access to demand flexibility programs, and improving access to solar/storage and energy efficiency in multifamily and/or renter-occupied buildings (see slides 16-17 in Appendix). She described Steering Committee feedback, including direct installation programs for EV infrastructure in low-income communities, funding assistance, and energy retrofits to address habitability.

Janet Reyna explained the issue of heat-related illness with regard to universal access to home cooling. She shared questions that the project team is using for analysis, including the intersections of lack of home cooling, vulnerable populations, and lack of public resilience centers; the types of housing most vulnerable to dangerous temperature exposures; and housing-type-specific cooling interventions.

Janet Reyna then shared that the project team is focusing on what it would take to provide cooling for everyone in Los Angeles and how to deploy cooling by building type, income level, neighborhood, and renter/owned specific technology. Additionally, the project team is interested in culturally relevant and compelling implementation approaches. She then stated that the NREL technical team is working with the UCLA California Center for Sustainable Communities (CCSC) on understanding cooling technologies in homes.

Major Themes from Steering Committee Questions and Discussion

- Include funding for public cooling spaces such as schools, parks, and community centers.
- Passive cooling technologies are also worth noting, not just air conditioning. Cool roofs, insulation, and tree planting may also be considered.





- Health dangers in low-income communities over years of increasing climate temperatures are a concern, especially in small living units with high density. Power costs lead to turning off cooling with life-threatening problems, especially for aged folks.
- Hybrid benefits are worth considering. For example, low-income rental units can get an additional "cooling credit."
- Resilience hubs may be more successful than cooling centers. Some examples: <https://www.climateresolve.org/resilience-hubs/> and <http://resilience-hub.org/>.

Janet Reyna continued by describing proposed pathways for building weatherization, thermal storage, and resilience to extreme events (see slides 18-19 in Appendix). Some Steering Committee feedback included the need to subsidize multi-family affordable housing, incentivize upgrades in older rental properties, and address habitability with energy retrofits.

Janet Reyna explained that the project team is considering questions such as the types of homes and neighborhoods that have the least access to cooling and the most effective weatherization interventions to prevent dangerous in-home temperatures. In the analysis, energy use will be simulated and the project team will examine what will occur when the power is shut off. She shared that the project team is interested in Steering Committee feedback on culturally compelling implementation approaches to deploy life-saving weatherization interventions. Lastly, Janet Reyna noted that the NREL technical team is working with UCLA on this topic.

Major Themes from Steering Committee Questions and Discussion

- There are local deviations regarding the relationship between redlining and income. For example, in the northeast San Fernando Valley, Panorama City was redlined but nearby Pacoima was not, and Pacoima was home to many leading post-war black families. Both communities are now low-income.
- Address building weatherization by focusing on income.
- Target areas with consistent extreme heat events.

Buildings/Local Solar and Storage

Paritosh Das, Energy Systems Research Engineer with NREL, shared the proposed pathways for the topic of improving access to solar/storage, and energy efficiency in multifamily and/or renter-occupied buildings (see slides 20–21 in Appendix). He noted several questions to be answered by the project team, including what types 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, and what suites of building-type-specific-technology and efficiency interventions would deliver the highest cost savings.

Paritosh Das noted some Steering Committee feedback on the topic that included the importance of funding assistance for low-income communities, avoiding eviction and affordable housing loss, and using incentives rather than rebates. He then stated that the project team is interested in understanding the main challenges to installing solar, storage, and energy efficiency in multi-family or renter-occupied buildings aside from affordability and split incentives.



Major Themes from Steering Committee Questions and Discussion

- Ensure community solar has adequate storage and reliability and benefits environmental justice communities.

Local Solar and Storage

Paritosh Das overviewed the proposed pathways for the local solar and storage topic and explained that the project team is looking at targeted solar siting in disadvantaged communities to deliver cost savings and local resilience benefits (see slides 22–25 in Appendix). He stated that the focus is on improving resilience in disadvantaged communities and noted a question to be answered by the project team: Where and how can solar and storage can be deployed to increase the hours/days of electricity service in an outage situation in disadvantaged communities?

Paritosh Day shared feedback from the Steering Committee on the topic, such as a strategy to utilize curtailment through storage, backup power in the basin for disruption periods, and a focus on regions prone to wildfires. The project team is interested in Steering Committee feedback on what types of solar-plus-storage deployment programs would be most effective in serving disadvantaged communities.

Major Themes from Steering Committee Questions and Discussion

- A concern about solar is that many people have urged the solution on lower-income communities for equity when rooftop solar can be both uneconomic and a housing damage risk for low-income homes.
 - Megan Day: The metric for rooftop solar and behind-the-meter storage is bill savings. If these solutions do not deliver bill savings for certain types of housing and income levels, then the project team will look to community solar participation or other methods to deliver bill savings to low-income households.

Transportation

D-Y Lee, Research Scientist with NREL, presented the proposed pathways for the transportation topic, which include equitable EV and charging access and reduced transportation energy burdens (see slides 26–27 in Appendix). He described what was heard from the Steering Committee on the topic, such as the need for EV sharing programs, the equitable distribution of EV charging stations, and active transportation routes around transmission lines and corridors.

D-Y Lee shared questions to be answered by the project team, including what a business-as-usual, economic EV adoption scenario would look like as compared to an equitable adoption model; the electrical loads associated with equitable EV adoption and access and EV charging infrastructure distribution; and the potential for increased multimodal electric mobility (e.g., bikes, scooters, car share). He noted that the project team is interested in feedback on critical factors limiting e-bike, e-scooter, and car-share access.

Major Themes from Steering Committee Questions and Discussion



- Based on community feedback, this priority could be ranked higher. The focus groups all talked about EVs and equitable access to EV charging.

Reliability and Resilience

Bryan Palmintier, Senior Research Engineer with NREL, presented the proposed pathways for reliability and resilience, noting Steering Committee support for electric reliability and enabling solar, storage, and EVs in disadvantaged communities through distribution grid upgrades (see slides 28–29 in Appendix). He stated that Steering Committee feedback includes ensuring investments are in the most pollution-burdened communities, ensuring EV infrastructure in all communities, and providing real-time information on energy sources to low-income households.

Bryan Palmintier explained that the project team is working to address questions on the infrastructure investments needed to ensure equitable electricity, reliability, solar, storage, and EV adoption in underserved communities and understand the associated costs and avoided costs. He then stated that in looking at a more electrified future, the project team is interested in understanding aspects of the current infrastructure that represent barriers and disadvantaged communities and electric service priorities during disasters.

Major Themes from Steering Committee Questions and Discussion

- Providing clean potable water after an extreme event, such as a large earthquake is a challenge in building resilience hubs.
- There is a nexus between atmospheric water emissions and electricity as green hydrogen needs water too.
- Water is not unrelated to power availability. Many areas of the city require some electrical pumping so when the grid is down, water is not accessible.
 - Simon Zewdu: Most water is gravity fed but some relies on pumps and electricity. LADWP is working with the water system closely and will look at the requirements for a resiliency hub. The department aims to have an integrated approach when thinking about resilience hubs.

Air Quality and Public Health

Garvin Heath, Senior Environmental Scientist and Energy Analyst with NREL, described the air quality and public health topic, including proposed pathways for the mitigation of health impacts due to medium and heavy-duty vehicles. He stated that many communities highlighted poor air quality during the community engagement process. Garvin Heath described some of the Steering Committee feedback heard, including the need to focus on transportation in improving air quality and meeting federal air quality standards to ensure funding for transportation.

Questions to be answered with the NREL and UCLA collaboration include the electrification of different types of trucks and where they would provide the greatest health benefits in disadvantaged communities and if truck or car electrification would provide greater air quality and health improvements in disadvantaged communities. He also shared that NREL will focus on neighborhood-scale impacts and collaborate with Yifang Zhu, Associate Professor of the Environmental Health Sciences



Department in the Fielding School of Public Health, at UCLA on their contribution to broader regional air quality.

Garvin Heath stated that the project team is interested in Steering Committee feedback on which neighborhoods and roads should be prioritized.

Major Themes from Steering Committee Questions and Discussion

- Cement trucks and container trucks are important to focus on.
- Be transparent with communities about the benefits green energy will have for air quality by electrifying transportation.
- A careful look should be taken at the types of trucks which navigate the freeways in disadvantaged communities. Studies show that communities adjacent to freeways have a poorer air quality.
- Gateway cities in southeast Los Angeles should be prioritized as well.
- It is important to look at the compounding benefits of both truck and car electrification.
 - Garvin Heath: The compounding benefits of both truck and car electrification will be assessed by the UCLA team at the community scale.
- Air quality is largely from small particulate matter (mostly diesel soot). A vision for transportation includes electrifying trains from ports to the Colton rail yards.
- Where are student shuttles, Downtown Area Short Hop (DASH) bus, and Metro Micro rideshare vehicles being considered?
 - Garvin Heath: The project team won't be able to differentiate specific bus routes/owners, given data requirements for the modeling, but will consider if there is a way to address that.
- Brake and tire dander is a major contributor to particulate matter (PM) so EV cars and trucks (albeit better for the environment than their fossil fuel cousins) will nonetheless still contribute a sizable amount of PM.

UCLA Energy Atlas

Stephanie Pincetl, CCSC Founding Director at UCLA, introduced the CCSC and the team's mission, history, and values (see slides 33–34 in Appendix). She noted that the CCSC is dedicated to working with communities to shape its work and use 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, equality. She noted that the CCSC team has more than 10 years of experience working closely with LADWP and other Southern California utilities to develop the UCLA Energy Atlas.

Energy Atlas

Eric Fournier, CCSC Research Director, overviewed the Energy Atlas back-end database that contains billions of historical monthly usage records (see slides 35–38 in Appendix). He explained that the Energy Atlas back-end database contains historical monthly usage records for millions of unique customer accounts with cyber security protocols in place to protect sensitive data. Eric Fournier also stated that



the Energy Atlas front-end websites allow the public to explore maps and data on building electricity and natural gas use.

Eric Fournier explained that the Energy Atlas can generate maps by energy usage, county, city, and neighborhood throughout Southern California, and can also show usage by building use-type and other categories. He described how the Energy Atlas can be used to see changes in all metrics over time and how drop-down menus allow exploration of different insights. The Energy Atlas also includes a profile page for viewing detailed energy usage profiles for different local areas, which can help compare energy usage metrics. Eric Fournier described other tools such as the Los Angeles County Community Solar Opportunities Map that has also been developed from the available data (see slide 39 in Appendix). Importantly, he explained, the CCSC will use its secure computing environment to facilitate the transfer of data to other researchers.

Felicia Federico, CCSC Executive Director, overviewed the project tasks, which include managing the platform for maintaining and sharing privacy-protected project data (see slides 40–46 in Appendix). She explained that UCLA will create a new platform to share with the project team members to ensure privacy is maintained. The UCLA data will help facilitate energy models that address unique community-level building stock characteristics and provide data on electric service panel upgrades, which will identify necessary upgrades in low-income homes. Lastly, UCLA will analyze small commercial energy use for potential barriers to small businesses with a focus on minority-owned businesses in the transition. Felicia Federico shared that the team is interested in feedback on what analyses and metrics should be considered for energy consumption and billing data and what types of data the Steering Committee would like to become publicly available to support equity strategy implementation.

Major Themes from Steering Committee Questions and Discussion

- For buildings, would it be possible to include electric circuit upgrade for home charging for EVs (not always, but sometimes)? Also, EV charging contributes to buildings' electrical load, so it is something to consider adding to the analysis.
- What would it take to upgrade all 100-amp panels in single-family homes?
- To electrify heating and transportation, an additional two-thirds would be needed to meet electricity demand. Is there availability for capacity at the service-panel level? What are the equity considerations regarding upgrading service panels in individual homes? Which types of properties need which types of upgrades to support the transition?
- Interested in the panel upgrades for multi-family housing used by lower-income renters, to provide in-building EV charging (as well as possibly some benefits like unit cooling).
- Investments should be made in companies like Siemens, Schneider Electric, Leviton, and GE as they manufacture panels, and the demand is going to be enormous.
- If there is a higher level of energy consumption in lower-income communities, rebates and resources can be targeted here. For higher-income individuals, rebates are often provided. For lower-income communities, the government can directly install what is needed as low-income communities cannot afford to pay for the upgrades.
- The wealthy use more energy per capita. The question of distribution of costs is important. What is the energy burden created by larger houses in wealthy areas?

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- A report on this: <https://www.ioes.ucla.edu/wp-content/uploads/2020-on-energy-sufficiency-and-the-need-for-new-policies-elementa.pdf>
 - Megan Day: NREL is looking at direct install and utility ownership models if it is a cost-effective way to reduce bills and address gentrification and displacement. They are also looking at government programs around affordable housing, direct installation, etc. and how the costs compare for LADWP.
- The public should be informed on current capacity and the ability to expand capacity going forward, including the frequency of expanding capacity in concert with increases in population density.
- One of the challenges in using this data may be the mix of low-income units (low power) and industrial (high power) users, so maps may not reflect the residential uses correctly. Building use should be a part of the databases.
- A square footage residential power rate tax may be worth considering.
- The challenge with every benefit to multifamily rentals is those owners are universally likely to keep the benefits and not pass them through to renters.
- Encourage Strategic Long-Term Resource Planning to give options wherever possible. One of the things several members of the Advisory Group wanted to do is present a cost of going only to 90% vs 100% by 2035 – knowing this is important for some members of the Steering Committee. A cost-benefit analysis of the transition is important.

Wrap Up and Next Steps

Joan Isaacson shared that the upcoming Steering Committee meetings will take place on May 18, 2022, and June 15, 2022, and that subsequent meetings will occur monthly on the third Wednesday of each month from 10:00 a.m. – 12:00 p.m. She also explained that agenda items will include input from the Steering Committee on draft modeling, analysis, strategy development planning, a summary of what was heard at community meetings, analysis of current energy inequities, affordability, jobs, and an update on LADWP's Strategic Long-Term Resource Planning.

Simon Zewdu thanked everyone for participating in the meeting and noted the progress that has been made to identify topics of importance to Los Angeles community members. He also encouraged Steering Committee members to provide further input between meetings and share feedback on how the project team can improve. Simon Zewdu shared that the intended outcomes of the LA100 Equity Strategies are to ensure the pathways are implementable and meaningful to all communities in Los Angeles.



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Appendix

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April 20, 2022

Presentation Slides

