

LA100 EQUITY STRATEGIES



Los Angeles 100% Renewable Energy Equity Strategies

Steering Committee Meeting #18

April 19, 2023

Meeting Summary

Schedule and Location

Wednesday, April 19, 2023, 10:00 a.m. to 12:00 p.m.

Conducted virtually

Virtual Meeting #18 Attendees

Steering Committee Members

Climate Emergency Mobilization Office (CEMO), Christine Lee (alternate)

Climate Resolve, Jonathan Parfrey

DWP-NC MOU Oversight Committee, Tony Wilkinson

Los Angeles Alliance for a New Economy (LAANE), Diana Umana (alternate)

Los Angeles Alliance for a New Economy (LAANE), Victor Sanchez (alternate)

Pacific Asian Consortium in Employment (PACE), Celia Andrade

Pacoima Beautiful, Melisa Walk (alternate)

RePower LA, Roselyn Tovar

South Los Angeles Transit Empowerment Zone (SLATE-Z), Stephanie Ramirez

South Los Angeles Transit Empowerment Zone (SLATE-Z), Ruth Morales (alternate)

Strategic Concepts in Organizing and Policy Education (SCOPE), Tiffany Wong (alternate)

South LA Alliance of Neighborhood Councils, Thryeris Mason

LADWP Staff

Anton Sy

Armen Saiyan

Ashkan Nassiri

Ashley Negrete

Babak Yazdanpanah

Bernardo Perez

Carol Tucker

Dawn Cotterell

Denis Obiang

Iris Castillo

Jay Lim

Joe Koh

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Jorge Centeno
Mudia Aimiuwu
Sean Lim
Steve Baule

Project Team

Bryan Palmintier, National Renewable Energy Laboratory (NREL)
Christina Simeone, NREL
Eda Giray, NREL
Kate Anderson, NREL
Katelyn Stenger, NREL
Megan Day, NREL
Nicole Rosner, NREL
Sonja Berdahl, NREL
Thomas Bowen, NREL
Cassie Rauser, UCLA
Magali Sanchez-Hall, UCLA
Raúl Hinojosa-Ojeda, UCLA
Stephanie Pincetl, UCLA
Brisa Aviles, Kearns & West
Jack Hughes, Kearns & West
Joan Isaacson, Kearns & West
Robin Gilliam, Kearns & West

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Welcome Remarks

Joan Isaacson, facilitator from Kearns & West, welcomed members to the eighteenth Los Angeles 100% Renewable Energy Equity Strategies (LA100 Equity Strategies) Steering Committee meeting. She introduced NREL presenters Megan Day and Thomas Bowen to overview the current phase of the LA100 Equity Strategies process.

Rates and Affordability

Megan Day, LA100 Equity Strategies Project Manager and NREL Senior Energy Planner, presented key findings and themes for rates and affordability. She first reviewed community guidance and feedback from the community listening sessions. Some participants suggested ensuring affordability is the highest priority and ensuring energy upgrades don't raise rent prices. Participants also suggested providing subsidies, free aid, and other support instruments for ratepayers unable to pay their bills (see slide 9 in Appendix).

Next, Megan Day shared that NREL's analysis of LADWP investments found that the \$487 million invested by LADWP over the last 15 years in the Low-Income and Lifeline programs appropriately benefited disadvantaged communities (see slide 10 in Appendix). Non-disadvantaged communities received 56% of the total number of non-low-income-targeted LADWP residential incentives (including electric vehicle, solar, and efficiency programs) while making up about 51% of Los Angeles' population. She also noted that between 2014 and 2020, disadvantaged communities, mostly non-White, mostly Hispanic, mostly renters, and mostly below-median-income households experienced, on average, marginally higher power disconnections than non-disadvantaged, mostly White, mostly non-Hispanic, mostly homeowners, and higher-income households (see slide 11 in Appendix).

Thomas Bowen, Rates and Affordability Researcher with NREL, presented key preliminary findings on rates and affordability. He presented existing contexts and challenges, including the City of Los Angeles being home to an extremely high population of residents living in poverty. Additionally, he noted that LADWP, when compared to other utilities and agencies, has a much lower percentage of enrollees in low-income programs. On addressing this discrepancy, Thomas Bowen stated that LADWP has identified that greater outreach efforts can be made to increase enrollment.

Low-Income Energy Bill Affordability

Thomas Bowen spoke to low-income energy bill affordability. He explained that currently neither customer adoption of photovoltaics nor electric vehicle adoption are included in the initial results, but that when those results are added, they could potentially point to less equitable outcomes in 2035. He stated this could be due to cross-subsidization from typically low-income customers to typically high-income adopters. Furthermore, he stated that low-income bill assistance programs offer significant increases in equity but create higher program costs (see slide 14 in Appendix).

Thomas Bowen introduced equity metrics where the energy burden, or electricity burden, is measured by the annual household income divided by the annual household electricity expense and is expressed as a percentage (see slide 15 in Appendix). He explained that anyone spending more than 6% of their

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annual income on energy bills is considered energy burdened. The other metric used for the analysis is hours worked at minimum wage, measured by the number of hours a person working at minimum wage must work to pay for a monthly energy bill. He then explained that those working fewer hours experience greater affordability.

Next, the modeling and analysis preliminary results were reviewed, which included baseline equity conditions, community solutions guidance, and key findings and equity strategies. Thomas Bowen explained that LADWP rates are essentially locked-in, and rate increases are incremental. Under baseline conditions, as City of Los Angeles customers begin to see higher electricity bills, low-income residents experience both higher bills as well as a higher energy burden. Thomas Bowen stated that these results demonstrate the business-as-usual scenario where rate design remains in line with California Public Utility Commission guidance of a two-tiered inclining block rate structure (see slide 17 in Appendix).

NREL modeled a robust assistance program for low- and moderate-income households using the California Alternate Rates for Energy (CARE) and Family Electric Rate Assistance (FERA) programs and found that they significantly improve affordability outcomes (see slide 18 in Appendix). The most affordable scenario was a two-tiered inclining block rate with the CARE and FERA programs.

Thomas Bowen then described an income-based fixed charge scenario. First, he explained that a portion of LADWP's charges come from fixed charges, and the other portions are based on income. Thomas Bowen noted that income-based fixed charges produce a dramatic decrease in energy burden for low-income customers and an even greater decreased energy burden when combined with the FERA program (see slide 19 in Appendix). He suggested that the proposed equity strategies and programs present challenges given the constraints of Propositions 26 and 218.

Thomas Bowen reviewed the proposed equity strategies for rates and affordability (see slides 22-23 in Appendix). Recommendations include converting to a two-tier California Public Utilities Commission-recommended rate design and combining LADWP's existing rate design with low-income assistance approaches modeled after the CARE and FERA programs. He noted that LADWP has low enrollment in assistance programs, and community guidance expressed interest in low-income bill assistance programs to improve equity. Lastly, Thomas Bowen shared that because Los Angeles has a significantly large proportion of low-income customers in its territory, significant investments may be needed to offset those impacts and reduce inequities.

Major Themes from Steering Committee Questions and Discussion

- Have you looked at Southern California Edison's fixed rate changes?
 - Thomas Bowen: Yes, those should be the income-based fixed charges that NREL explored in the modeling. We're not 100% sure when or if it will be implemented. Currently, the California Energy Commission is exploring this. We can also share more information on the UC Berkeley Haas study if there is interest.
- If LADWP is selling more power, would that increase sales and therefore reduce costs for all customers?

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- Thomas Bowen: NREL finds that combined with electric vehicles, equity outcomes will worsen as more costs will be shouldered by low-income customers.
- Are the model and cost numbers related to the NREL portion of the study? One of the problems with the LA100 100% Renewable Energy Study is that the assumption was made that all distribution systems will be updated. There is the whole cost of the LADWP bill and those associated with portions of the system identified in the Strategic Long Term Resource Plan (SLTRP) analysis.
 - Thomas Bowen: NREL does not take costs from the original LA100 100% Renewable Energy Study, but rather takes costs from LADWP's SLTRP.
- Joan Isaacson: Do the SLTRP costs include distribution system maintenance and updates?
 - Jay Lim: Yes, the SLTRP does include distribution costs.
- Are there other rate design scenarios that NREL explored besides these, or others that are forthcoming?
 - Thomas Bowen: Yes, the final rate design that NREL is exploring is two-tiered based on California Public Utilities Commission guidance, time-of-use rates (for low-income customers and non-low-income customers), and income-based fixed charges. There are so many rate design options, but we focused on those that are more in line with what we're seeing from the California Public Utility Commission.
- Will NREL be providing recommendations on the specific changes/strategies needed to get around or change Propositions 26 and Prop 218 locally to facilitate the CARE program and income-based fixed charges?
 - Megan Day: As a national laboratory, we do not make recommendations. We share our findings as options but cannot make recommendations as it relates to decisions and elections. Most of what Thomas Bowen has modeled is not possible under the current propositions.
 - Thomas Bowen: To clarify, it's not that the proposed programs are illegal, but they require a ballot measure. NREL can't advocate for the ballot measure, but there is a mechanism for implementing the programs.

Universal Access to Safe and Comfortable Home Temperatures

Megan Day overviewed the community guidance related to universal access to safe and comfortable home temperatures (see slide 28 in Appendix). She stated that some participants emphasized the need for safe living conditions, raised concerns that home upgrades will increase rents and cause displacement, and said that more diversified and community-tailored outreach and support are needed, amongst other recommendations.

Baseline Equity Analysis

Megan Day presented the baseline equity analysis, noting that NREL looked at current LADWP energy efficiency investments for residents. She stated that these residential efficiency investment programs mostly benefited non-disadvantaged communities (see slide 30 in Appendix). As a baseline, Megan Day explained that the findings indicate cooling is an equity issue because more than 30% of extremely low-income households lack access to cooling. And, although some low-income households have cooling



access, about 50% of low-income households do not use cooling. In terms of heating and fuel for heating, nearly 20% of low- and moderate-income renters lack access to heating or use propane (see slides 32-33 in Appendix).

Katelyn Stenger, Weatherization and Decarbonization Researcher at NREL, presented the modeling results on universal access to safe and comfortable home temperatures. She explained that a building simulation model was used to analyze universal access to safe and comfortable home temperatures. The team analyzed 50,000 unique building types with different types of cooling access and improvements (see slide 35 in Appendix). The results show that low-income households experience an average maximum indoor temperature of 93 degrees Fahrenheit, and when provided with a cooling resource, the temperature drops to 80 degrees Fahrenheit (see slide 38 in Appendix). When examining access to safe and comfortable temperatures, the analysis looked at how many hours residents are exposed to temperatures above 86 degrees Fahrenheit. Katelyn Stenger noted that the results show cooling use decreases the number of hours of exposure.

In the modeled scenario, cooling access was applied across all building types to examine trends in utility bill savings (see slides 39-41 in Appendix). Compared to the baseline, households with cooling access experienced utility bill savings across all housing types with single-family dwellings saving more than multi-family dwellings. When looking at utility bills per square foot, the baseline condition for low-income households has the highest utility bill per square foot. In terms of energy burden, defined as the percentage of household income spent on utility bills, upgrades were not found to substantially change energy burden from the baseline scenario (see slide 42 in Appendix). Lastly, Katelyn Stenger stated that all cooling upgrades decrease total residential electricity use for Los Angeles' housing stock (see slide 43 in Appendix)

Katelyn Stenger reviewed the equity strategies for universal access to safe and comfortable home temperatures. She noted that the equity strategies aim to prioritize cooling for low- and moderate-income customers. Some of the equity strategies include prioritizing cooling technology installation for low- and moderate-income multi-family renters without cooling access, prioritizing coordinated deployment of cooling access and upgrades, funding and staffing program outreach and technical assistance, and pilot upgrades, amongst others (see slides 45-47 in Appendix).

Major Themes from Steering Committee Questions and Discussion

- Is the slope of the roof taken into consideration in the analysis? These variances in roof slope can impact the level of cooling.
 - Katelyn Stenger: The analysis accounts for materials used.
 - Megan Day: These findings should be made available on the LADWP website by August.
- It doesn't make sense that adding cooling would decrease the energy burden for low- and moderate-income households.
 - Katelyn Stenger: In terms of the increased energy burden results, heat pumps were used in the analysis.



Equitable Distribution Grid Reliability and Resilience

Megan Day introduced the grid reliability and resilience topic and reviewed community guidance. She noted that some participants recommended investing in infrastructure capacity for all Angelenos by understanding barriers to accessing energy-efficient technologies, remedying historical and ongoing neighborhood neglect, and developing strategies to upgrade the grid and electrical capacity of existing housing stock (see slide 51 in Appendix). Power reliability was examined in LADWP's service territory. Disadvantaged communities and mostly Hispanic communities experience more frequent power interruptions than non-disadvantaged, mostly non-Hispanic communities, but NREL found no significant variance in the length of the interruption (see slide 52 in Appendix).

Bryan Palmintier, Senior Research Engineer with NREL, presented the focus of the grid analysis, which looks at the local distribution grid with regard to equity impacts. He stated that the next section of the presentation consists of a more forward-looking analysis with datasets derived from other parts of the analysis. Bryan Palmintier highlighted that the NREL team is currently working through the data analysis. Within grid analysis, there are two themes: equitable distribution grid upgrades for reliability and solar, storage, and electric vehicle access; and equitable and resilient access to electricity-related services during extreme events (see slides 54-56 in Appendix).

The reliability and access element takes data from different areas to compute grid stress and associated reliability, Bryan Palmintier explained (see slides 57-60 in Appendix). He described how detailed engineering models are used across the full-service territory to examine a broader regional context and identify which areas to prioritize. The purpose of the analysis is to create a prioritized map to aid LADWP in planning for the future. He noted that the anticipated findings suggest that the consequences of poor grid reliability do not impact all communities equally.

Bryan Palmintier then addressed the community energy resilience analysis, which looks at extreme event scenarios and the resiliency of services (see slides 62-67 in Appendix). He explained the neighborhood selection process where a mix of disadvantaged communities and non-disadvantaged communities were selected for geographic diversity to examine how resilience events can affect not only energy services (electricity) but also non-energy services (hospitals, banks, grocery stores, etc.). He explained that this analysis can capture the scope of burdens experienced by customers in respective communities, both due to extreme events as a baseline and when compared to upgrades in distribution system (see slide 64 in Appendix). Bryan Palmintier reviewed preliminary results indicating that disadvantaged communities show historically lower grid resilience and fewer strategies like undergrounding of electrical equipment, microgrids, and battery energy storage to improve resilience (see slides 66-67 in Appendix).

Bryan Palmintier presented proposed equity strategies, such as incorporating equity into planning and being proactive with upgrades (see slide 69 in Appendix). With regard to resilience, the social burden



during extreme events is worse in disadvantaged communities. NREL's proposed equity strategies include investing in underground cables, providing programs to support energy storage and backup generation, and collaborating with community-based organizations on education and support programs during outages (see slide 70 in Appendix).

Major Themes from Steering Committee Questions and Discussion

- While the presentation talked about upgrades to take advantage of the energy resolution, the reality is that for low-income residents, the use of natural gas is more affordable than transitioning to electric appliances.
 - Bryan Palmintier: That's more a matter of understanding of whether there is a social need in creating a citywide goal of transitioning to 100% clean energy.
 - Megan Day: NREL is modeling energy burdens and energy bill savings as the most important metrics for most analyses. We're very focused on modeling energy burdens under different scenarios and customer rates to make sure that customers are not hit with grid upgrade costs later on that are challenging.

Green Jobs Workforce Development Preliminary Report

Raúl Hinojosa-Ojeda, Associate Professor in the UCLA Department of Chicana and Chicano Studies, overviewed the UCLA analysis on jobs and workforce development. He presented the green jobs calculator developed by UCLA. From their analysis, he shared that green jobs are growing faster in the City of Los Angeles than non-green jobs. The growth of green jobs in the Hispanic community is complementary and beneficial to White and Black workers in green and non-green jobs. Raúl Hinojosa-Ojeda showed charts indicating where green jobs are present in the City of Los Angeles and who benefits from them (see slide 76 in Appendix).

Raúl Hinojosa-Ojeda presented findings on LADWP employee data (see slides 79-81). Hispanic, White, Asian, and Black workers make up the largest shares of employees in the LADWP power sector, he noted. Hispanic workers are most represented in construction, followed by White and Black workers. Power generation has White workers as the largest group, followed closely by Hispanic workers, and then Black workers. Most LADWP workers, who are relatively well-paid, do not live in disadvantaged communities. However, Hispanic and Black workers make up the largest share of LADWP employees living in disadvantaged communities and earn the lowest wages of LADWP workers, whether they live in disadvantaged or non-disadvantaged communities. Hispanic and Black workers are more concentrated in lower wage occupations and activities yet earn comparable wages in higher and lower-paid occupations.

When considering occupation by sector, Hispanic, White, and Black workers make up the largest share of employees in LADWP construction occupations. White, Hispanic, and Black workers are also concentrated in the power generation sector, which is projected to transition from in-basin carbon to non-carbon generation. Employment changes in generation will be concentrated in disadvantaged communities, such as Wilmington. In order to ensure that future investments are equitable, Raúl



Hinojosa-Ojeda explained that LADWP must estimate baseline inequality gaps, employment impacts of the LADWP transition, projected demographic change, and necessary workforce development investments (see slide 82 in Appendix).

Raúl Hinojosa-Ojeda stated that direct green jobs employment effects will concentrate on Hispanics. Using analysis from the green jobs calculator and comparing to projected population growth trends can enable fine-tuning of a workforce plan that will meet identified workforce needs. Raúl Hinojosa-Ojeda also noted that there is now a detailed database of LADWP workers' place of residence by zip code across the County of Los Angeles (see slide 88 in Appendix).

Magali Sanchez-Hall, UCLA Green Jobs Calculator Project Manager, presented on the community engagement activities conducted by UCLA in Wilmington. She shared that community engagement meetings began in November 2022 and monthly meetings were held for six months. Community members' level knowledge of LADWP and green jobs before and after the meeting series was measured, and participants were surveyed to compare Wilmington's demographics to disadvantaged community indicators. Magali Sanchez-Hall noted that the findings are in the early stage and preliminary findings will be shared at the Advisory Committee meeting on April 25, 2023.

The preliminary report on LADWP green jobs in the energy sector indicated two early findings. First was an interest in building a green jobs workforce development pilot in disadvantaged communities for an equitable distribution of labor and to further explore income gaps. The second was to use community engagement recommendations for disadvantaged community case studies to create a bottom-up approach towards a more equitable workforce development transition. Raúl Hinojosa-Ojeda highlighted how the community-based findings informed the analysis development. Lastly, Magali Sanchez-Hall shared that many community members present at the community meetings were not affiliated with non-profit organizations or formal community groups but were often individual leaders in their respective communities with active involvement in specific issues.

Major Themes from Steering Committee Questions and Discussion

- How will the green jobs training dovetail with LADWP workforce training and employment opportunities?
 - Raúl Hinojosa-Ojeda: LADWP wanted to have this information first in order to identify the next phase of workforce development programming for LADWP.
- While green jobs training is good, one of the things that needs to be planned for in specific ways is the positions that community members will be placed into.
- There is a bottleneck in terms of permanent placements at LADWP and from a community-based organization perspective, there is an interest in getting Angelenos into union jobs, not just green jobs.
 - Raúl Hinojosa-Ojeda: You're absolutely right. At this point, this is where the rubber hits the road in terms of the data and timing. Connecting the dots between training and real jobs will be the next challenge, although UCLA has not been asked to explore this yet.

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Wrap Up and Next Steps

Joan Isaacson wrapped up by reminding Steering Committee members of the next meeting in May. Joan then introduced Denis Obiang, Transmission Planning Manager with LADWP, to provide closing remarks. Denis Obiang noted that the presentations were eye-opening and provided a recap of key takeaways from the meeting. He thanked the presenters from UCLA and NREL, as well as the Steering Committee members.

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Appendix

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Presentation Slides