LA100 EQUITY STRATEGIES

Los Angeles 100% Renewable Energy Equity Strategies

Steering Committee Meeting #8
June 15, 2022

Summary[1]

Schedule and Location

June 15, 2022, 10:00 a.m. to 12:00 p.m.
Conducted virtually

Virtual Meeting #8 Attendees

Steering Committee Members

City of LA Climate Emergency Mobilization Office (CEMO), Marta Segura
City of LA Climate Emergency Mobilization Office (CEMO), Rebekah Guerra (alternate)
Climate Resolve, Bryn Lindblad (alternate)
Community Build, Inc., Robert Sausedo
Enterprise Community Partners, Michael Claproth (alternate)
Los Angeles Alliance for a New Economy (LAANE), Kameron Hurt
Los Angeles Alliance for a New Economy (LAANE), Estuardo Mazariegos (alternate)
Move LA, Eli Lipmen (alternate)
RePower LA Coalition, Roselyn Tovar (alternate)
South LA Alliance of Neighborhood Councils, Thryeris Mason
Strategic Concepts in Organizing and Policy Education (SCOPE), Agustín Cabrera
Strategic Concepts in Organizing and Policy Education (SCOPE), Tiffany Wong (alternate)

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

Andrew Kwok
Carol Tucker
David Castro
David Rahimian
Dawn Cotterell
Denis Obiang
Iris Castillo
Jay Lim
Kodi Uzomah
Mudia Aimiuwu

[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.

LA DWP NREL Transforming ENERGY UCLA

Mukund Nair
Nancy Sutley
Paul Habib
Pjoy Chua
Ramon Gamez
Robert Meteau
Simon Zewdu
Stephanie Spicer
Steve Baule

Project Team

Ashreeta Prasanna, National Renewable Energy Laboratory (NREL)
Bryan Palmintier, NREL
Danny Zimny-Schmitt, NREL
Eda Giray, NREL
Garvin Heath, NREL
Jane Lockshin, NREL
Janet Reyna, NREL
Kate Anderson, NREL
Laura Supple, NREL
Luna Hoopes, NREL
Megan Day, NREL
Nicole Rosner, NREL
Patricia Romero-Lankao, NREL
Scott Haase, NREL
Sherin Ann Abraham, NREL
Sonja Berdahl, NREL
Alyson Scurlock, Kearns & West
Christian Mendez, Kearns & West
Jasmine King, Kearns & West
Joan Isaacson, Kearns & West
Alberto Murillo, UCLA
Cassie Rauser, UCLA
Jiaqi Ma, UCLA

City of Los Angeles

Michael Samulon, Vehicle Electrification and City Projects

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Welcome Remarks

Joan Isaacson, facilitator from Kearns & West, welcomed members to the eighth Los Angeles 100% Renewable Energy Equity Strategies (LA100 Equity Strategies) Steering Committee meeting. 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, noting the importance of equity. He shared that many utilities are discussing equity and evaluating how to distribute resources, noting that other utilities are looking to Los Angeles as an example. He added that in project team plans on engagements beyond the Steering Committee meetings so that engagement does not end in May 2023 and the community will continue to play an essential role in driving implementation. Simon Zewdu stated that LADWP and its community affairs department plan to work harmoniously and collaboratively with community-based organizations (CBO). He thanked the Steering Committee members for their continued participation.

Meeting Purpose and Agenda Overview

Joan Isaacson reviewed the meeting agenda (see slide 3 in Appendix). She explained that LADWP would provide an update on the Strategic Long-Term Resource Plan (SLTRP). She shared that there would be breakout discussions on equity outcomes and metrics, and all groups would have an opportunity to discuss all three topics. She then reviewed the productive meeting guides and the Steering Committee roster.

Joan Isaacson shared the schedule that tracks agenda items proposed by the Steering Committee (see slide 6 in Appendix). For the upcoming meeting on July 20, 2022, proposed topics will include an affordability analysis and discussions on buildings, electric vehicles (EVs) and EV charging, and rates and affordability. She also stated that future meetings will include co-development of the Equity Strategies with the project team and discussions on equity metrics and future technical topics. Joan Isaacson invited Steering Committee members to provide input on topics for future agendas.

LADWP Strategic Long-Term Resource Plan

Simon Zewdu introduced Denis Obiang, LADWP Manager of Transmission Planning, to present the relationship between the SLTRP and LA100 Equity Strategies. Denis Obiang provided background on LADWP's work in the last two years. He explained that the LA100 Study helped LADWP to identify pathways to achieve 100% renewable energy, but the study did not specify how to do this equitably. He stated that shortly after the completion of the LA100 study, the mayor made an announcement committing LADWP to 100% clean energy by 2035.

Denis Obiang stated that the LA100 Equity Strategies was initiated to develop strategies and metrics to achieve 100% renewable energy by 2035 equitably. He described the SLTRP, which identifies the energy resources needed to meet 100% carbon-free energy, including the quality, type, and sequencing of delivery of those resources. Denis Obiang explained that the SLTRP will develop programs and projects to meet energy needs while the Equity Strategies will develop equity outcomes. Simon Zewdu added that LADWP will begin using an equity determination process in 2024, which will assess the equitable distribution of resources in Los Angeles.

Next, Jay Lim, LADWP Manager of Resources Planning, presented on the SLTRP, explaining that the SLTRP is building from the LA100 study. He noted takeaways from the LA100 Study: (1) LA100 is achievable; (2) in-basin, long-duration capacity is required in all scenarios to ensure reliability; (3) building and transportation electrification are key to the transition. Jay Lim highlighted commonalities across all scenarios where LADWP has begun implementation.

The mayor and city council set accelerated targets and requirements for developing the 2022 SLTRP. He noted City Council Motion (No. 21-0352), which states the SLTRP will prioritize equity in environmental justice communities to ensure no increase in emissions in these communities.

Jay Lim noted caveats of the LA100 study (see slide 12 in Appendix), namely that it is a study and not a plan, scenarios to achieve 100% by 2035 assume the ability to quickly scale up hydrogen infrastructure, the potential role of the customer has not been fully explored, climate change could impact LADWP's ability to maintain resource adequacy, and the study did not fully assess the feasibility of the accelerated deployment.

He also shared that LADWP is updating the SLTRP to include supply chain, construction, and other impacts that have emerged in recent years.

Jay Lim next overviewed the SLTRP, noting that it is a resource roadmap that drives the financial priorities of the department and an understanding of what resources to build and where. He noted that Los Angeles is currently at 30% renewable resources, will transition to 80% over the next few years, and will be 100% carbon-free by 2035. He emphasized that the SLTRP is an iterative process where scenarios are refined with changing regulatory goals and financial impacts.

Jay Lim explained that the SLTRP's framework is guided by an advisory group of about 50 stakeholders.. Jay Lim stated that to maintain continuity, the Advisory Group has been engaged since the LA100 study. He overviewed the stakeholder interests represented on the Advisory Group, including academia, business and workforce, city government, neighborhood councils, the environmental community, premier accounts and key customers, and utilities.

Jay Lim shared that the number of Advisory Group meetings have increased since 2017 to improve engagement and have focused on topics ranging from customer-focused programs to energy storage (see slide 17 in Appendix). He explained that the SLTRP timeline is a one-year process with opportunities for integrating feedback and recommendations every two years, highlighting that recommendations from LA100 Equity Strategies will be incorporated in the 2024 SLTRP. Jay Lim shared several key elements for the 2022 SLTRP, including public engagement from Advisory Group input, LA100 Equity Strategies engagement, and community and stakeholder outreach. He also noted planning considerations, including the future resource mix, rate impacts, and resiliency (see slide 19 in Appendix). Jay Lim shared some of the sensitivities the SLTRP Advisory Group and team are analyzing in the process, such as commodity prices and implementation risks (see slide 24 in Appendix).

Major Themes from Steering Committee Questions and Discussion

- Can you address how California Environmental Quality Act (CEQA) requirements for community input and engagement will be fulfilled if the process is streamlined?
- Jay Lim: Yes, CEQA requires community input and engagement, which could be lengthy. LADWP hopes to seek legislative relief to shorten the CEQA process, but this is a broader effort that will require policy support.
- State legislation has been introduced to align with Justice40 guidelines for infrastructure distribution that LA100 should align with.
- For the SLTRP, is the idea that the Advisory Group will end up choosing one out of the three scenarios?
- It's good to hear SLTRP is looking at air quality, environmental, and rate impacts. However, it reads as if LA100 Equity Strategies are tacked on rather than guiding scenario and project development from development to implementation. There are concerns that equity conversations are being siloed from the SLTRP, which should be guiding all decision-making.

Equity Outcomes and Metrics Breakout Group Discussions

Megan Day, Equity Strategies Project Manager and NREL Senior Energy Planner, explained that NREL's strategy analysis and development approach is based on achieving 100% renewable energy, and that the LA100 Equity Strategies achieve this goal in ways that improve energy justice. She explained that Steering Committee members would discuss three topics in breakout groups: (1) Truck Electrification Air Quality and Health Impacts, (2) Solar and Storage, and (3) Grid Resiliency and Distribution Grid Upgrades.

Joan Isaacson explained that Steering Committee members would be organized into three groups based on their organization's focus (see slide 33 in Appendix) and that a project team member would facilitate an open discussion of the three topics. She shared that project team members from Kearns & West, NREL, and UCLA would also be present with members of the technical team rotating to join each group. Joan Isaacson gave an overview of the three discussion topics and then reviewed the guides for productive discussions.

In the breakout groups, Steering Committee members were asked to provide feedback on how to measure success on each topic and to suggest other metrics, areas of focus, and ways to prioritize strategies as well as provide other input. Feedback from Steering Committee member are organized by topic and breakout group. All breakout groups had the same questions, but responses will vary based on each group.

Truck Electrification Air Quality and Health Impacts

For the truck electrification air quality and health impacts topic, Steering Committee members were asked, "Should air quality and health benefits from truck electrification be targeted to" and given a list of four areas to discuss as well as the opportunity to suggest another metric:

A. Disadvantaged communities (DACs) defined by CalEnviroScreen
B. Neighborhoods with the poorest air quality
C. Neighborhoods with high rates of asthma or other health vulnerabilities
D. Neighborhoods with the highest potential for air quality improvements from truck electrification regardless of neighborhood characteristics (likely associated with high truck traffic areas)
E. Or another metric?

Major Themes from Steering Committee Questions and Discussion: Group 1

- How different are the various targets? They seem to be intersecting in terms of communities on the frontlines.
- How reliable are the air quality monitors, and are they distributed well enough to capture air quality differences?
    - Garvin Heath (NREL): There is a lot of overlap between DACs in CalEnviroScreen because the tool incorporates air quality and health but doesn't have maps prepared. The research team is planning to look at different truck classes based on which trucks have the greatest impact to air quality and health in different areas (e.g., delivery trucks vs. long-haul trucks).
    - Simon Zewdu: LADWP can help with truck electrification by prioritizing projects that highlight neighborhoods with high truck traffic. LADWP has also started working with the Port of Los Angeles.
- Need to define truck electrification.

- Industry should be involved because truck idling is a major concern, especially if trucks are hybrid.
- High-density trucking areas close to residential communities should be the first priority. Highway paths that cut through communities and the impact of corridors should be the second priority.
- Not based on seeing any map comparisons, the granularity of the combination of targets B, C, and D is favorable.
- Steering Committee members in previous meetings have also highlighted freeway corridors coming out of the port and airport.

Major Themes from Steering Committee Questions and Discussion: Group 2

- The proposed groups overlap.
- In some communities, options B, C, and D are the same. It's hard to say which communities should be targeted first because there are so many factors contributing to air pollution.
    - Cassie Rauser (UCLA): UCLA has done this correlation and mapping and will connect NREL and UCLA for analysis.
- The locations where additional deaths occur during heat waves are correlated to where A, B, C, and D intersect.
- Can multiple criteria be used to target truck electrification resources?
- Los Angeles wants to be a leader in applying Justice40. Let's say we created Environmental Justice metrics for Environmental Justice communities that help Los Angeles to become Justice40. Can NREL put in the narrative how this aligns with Justice40 and help Los Angeles be the leader on Justice40?
    - Jiaqi Ma (UCLA): The research teams can document and disaggregate data and supplement CalEnviroScreen with other data.
    - Paty Romero-Lankao (NREL): The project team could develop definitions that are particular to Los Angeles from CalEnviroScreen – e.g., definitions that don't include race, but the project team and Steering Committee know that is an issue.
- Half (50%) of Los Angeles is identified as a disadvantaged community; using a combination of categories would be best for the analysis.
- Hospitalizations and deaths during a heat wave are correlated with health vulnerabilities. This could be a helpful metric.
- Align categories with those identified in the Justice40 Initiative.
- Don't want to use A by itself, but rather a combination of A, B, C, and D. It would be interesting to see how the correlation of targets to truck electrification benefits is mapped.
- There are other factors CalEnviroScreen measures that don't apply to Los Angeles, like pesticides.

Major Themes from Steering Committee Questions and Discussion: Group 3

- What role could LADWP actually play in truck electrification?
- Would the strategy help inform how we develop those metrics?
- Other agencies need to be engaged to provide funding to ensure this is affordable.

- There is data on hospitalizations and asthma that we analyzed for the report card and for the LA County Sustainability Plan.
- They are all important, and it's hard to classify one from another. How can we rank these, since they are all important?
- The top three targets for analysis would be option C, then B, then A.
- Wind can move pollutants from one neighborhood to another, so option D may be preferred.
- Option D is more open-ended compared to option A.
- Tracking truck ownership could be helpful.
- An important focus is identifying areas with high rates of trucking (e.g., Port of Los Angeles) and analyzing how that translates to effects on neighborhoods nearby.
- Option C would be number one, followed by B and D.
- The ability to measure concrete impacts is important.
- The possible metrics seem somewhat open to interpretation. The communities most impacted by energy burdens should get "relief" first. Neighborhood characteristics is not specific enough.
- "Highest potential" needs guardrails. It's too much like "highest truck traffic areas."
- There are cautions about how truck electrification should happen. Ensure small business truck owners who cannot afford the transition are not penalized.

Solar and Storage

Steering Committee members were asked to consider the solar and storage discussion topic and the question, "How do we measure success?" In particular, they were invited to provide feedback on equity, areas of focus, and approaches to prioritize. The specific prompts are presented below with Steering Committee member responses.

Major Themes from Steering Committee Questions and Discussion: Group 1

Should equity in solar and storage be measured in terms of utility bill savings from access to either rooftop photovoltaic (PV) or shared/community solar?

Should equity in solar and storage be measured in terms of ownership of rooftop solar and solar + storage systems?

- Utility and third-party ownership are not possible in Los Angeles because DWP doesn't allow it, but it would be a great strategy if possible.
    - Simon Zewdu: LADWP does allow behind-the-meter owners for developers as long as they sell to DWP.
- Equity shouldn't be measured in utility bill savings because it's an expectation, not a metric.
- A metric of success would be ensuring that the rates for those without solar don't increase as solar is installed in areas with the means to do so. Minimize the economic impact on distressed communities.
- Storage concerns are (1) affordability and (2) waste stream.

- Ownership can be an important factor in building economic justice and distribution access given rooftop conditions, multifamily housing, renters, and others.

Should we focus on customers in multifamily and renter-occupied buildings?

Should we focus on low- and moderate-income households in all census tracts?

- Consider including a fee for solar installation in communities that can afford to install solar. The money from the fee can provide structural improvements in communities of concern where solar is not affordable.

What approaches should be prioritized to expand equitable access to solar and storage benefits (when 64% of Angelenos are renters)?

Major Themes from Steering Committee Questions and Discussion: Group 2

Should equity in solar and storage be measured in terms of utility bill savings from access to either rooftop photovoltaic (PV) or shared/community solar?

- Financing, funding to pay the utility bills, and subsidizing bills are options worth considering.
- Is there federal funding or green bond funding to subsidize and lower bills?

Should equity in solar and storage be measured in terms of ownership of rooftop solar and solar + storage systems?

- Define "equitable access" when discussing priorities. It's difficult to measure success and decide on metrics without a definition.

Should we focus on customers in multifamily and renter-occupied buildings?

- There is an emphasis on renters, but no discussion on how to get property owners to buy into these programs. Any modifications are subject to the approval of the actual property owner.
- The focus should be on both owners and renters.

Should we focus on low- and moderate-income households in all census tracts?

What approaches should be prioritized to expand equitable access to solar and storage benefits (when 64% of Angelenos are renters)?

- Shared/community solar participation
    - Shared community solar programs in the past have not reimbursed the rooftop owners equitably, but this is changing. This is a good option if compensation is equitable.
- Technical assistance
    - It should be someone else's job to customize and cater rooftop solar for communities, especially considering microgrids.
- Direct installs vs. rebates

- Rebates aren't set up to rebate individuals efficiently – some people never see them, or they require lots of follow-through, and most people give up on receiving their rebates.
- Don't use rebates; just lower the cost of installation.
- Some people never see their rebates. It takes a lot of red tape, paperwork, and calling different departments.
- For charging station rebates, people are being advised to go privately; what LADWP can provide is not cheaper than what people can get in the market.

Major Themes from Steering Committee Questions and Discussion: Group 3

Should equity in solar and storage be measured in terms of utility bill savings from access to either rooftop photovoltaic (PV) or shared/community solar?

- The key is utility bill savings since the city is predominantly renters and many don't have the ability to own solar systems. DAC tracts are the areas that should be considered for utility bill savings.
- Utility bill savings is a great thing to track.
- Measure how much is being saved on utility bills.

Should equity in solar and storage be measured in terms of ownership of rooftop solar and solar + storage systems?

Should we focus on customers in multifamily and renter-occupied buildings?

Should we focus on low- and moderate-income households in all census tracts?

- Pay attention to places that have seen high job loss and economic impacts in the past couple of years due to COVID-19 and have utility debts. There should be significant savings, especially for people facing thousands of dollars of debt.
- Concentrate bill savings in neighborhoods that experience the most outages.
- DACs are hotter, have fewer trees, and experience more outages than non-DACs. It is important to keep the homes in DACs habitable during heat waves.
- Focus investments and keep the positive impacts (paid installer in the neighborhood, bill savings) of solar installation in the communities, especially in DACs. This is an opportunity to reverse historical injustices and create "greenbelts" in Los Angeles, a new form of "greenlining" that ensures formally redlined communities are now the greenlined communities.

What approaches should be prioritized to expand equitable access to solar and storage benefits (when 64% of Angelenos are renters)?

- On-bill financing (meter-based) leveraging utility buying power/credit
  - Bill financing would be much better than rebates since residents are often unable to front the costs.
  - Low-income people and especially low-income elderly people are important to prioritize because they may not have access to air conditioning. Power interruptions also impact low-income areas disproportionally and need to be considered. The ability to run air conditioning during a heat wave can save lives, keep medicine from going bad, and keep small businesses afloat that require cooling.
  - On-bill financing might be the best approach.

- Direct installs vs. rebates
    - Rebates are difficult for customers because they must front the money and hope the rebate comes through.
- Other
    - Additional protection from the heat is needed on buildings. Solar panels can potentially add a layer of protection from the heat.
    - Provide the opportunity for community members to participate in this transition by doing the installs themselves in union-scale jobs with good working conditions and retirement plans.
    - Tracking areas with the most utility shutoffs would be helpful.
    - Additional trees could add another layer of resilience to buildings that aren't designed for rising levels of heat.
    - Loans for elderly folks are important, especially for affordable air conditioning access. Affordability is the top metric, but reliability is important too. Outages can cause great harm to elderly and vulnerable communities by impacting access to air conditioning, food storage, and medicine storage.

Grid Resiliency and Distribution Grid Upgrades

For the breakout group discussion on grid resiliency and distribution grid upgrades, Steering Committee members were asked to consider how to measure success with regard to equity for the distribution grid and service during emergency situations. The specific prompts are presented below with Steering Committee member responses.

Major Themes from Steering Committee Questions and Discussion: Group 1

What does equity look like for the distribution grid? What are key outcomes for the following and how can we best measure/compare options?

- How do we address EV charging, grid reliability, or electric resilience without addressing retrofits on older homes?
- Is there an accounting of distribution equipment and whether that needs to be upgraded?
- Do we have a real accounting of distribution equipment and whether that needs to be upgraded?
- Equitable ability to charge EVs and install rooftop solar/storage
- As there is exponential growth in EVs, where should chargers be located?
- As we move towards complete switch to EVs, what incentives are available for people to own EVs because they're very expensive.
- Can't have a rooftop solar conversation without having a conversation about where we find resources to replace roofs in order to install solar.
- Electric resilience (access to electricity services during emergency outages)
- By expanding cooling, the footprint of NO_x, SO_X, CO_2, and other emissions is also expanded because most of those emissions come from buildings with HVAC systems. There is an equity tradeoff in terms of the environmental impacts. Should alternatives to traditional HVAC systems also be considered?

- Other local partners have engaged with their communities on building resiliency hubs, understanding community needs for resilience hubs, and building electricity capacity to meet those needs. Resilience hubs may have to be planned for each neighborhood rather than having a one-size-fits-all approach to planning those.

What are equitable electric service priorities during an emergency outage, disaster, etc.?

- Consider empty spaces in Los Angeles that could accommodate microgrids during electricity outages.

Major Themes from Steering Committee Questions and Discussion: Group 2

What does equity look like for the distribution grid? What are key outcomes for the following and how can we best measure/compare options?

- As days get warmer, there will be more pull on the grid and it will be important to avoid blackouts and brownouts. Grid reliability and capacity are necessary for increased heat.
- Modeling is needed to have accurate information on heat waves for Los Angeles. Who is going to bear the cost of expanding air conditioning?
- Important to understand the homes in south LA. Especially ones without insulation. They're like ovens in summer, extremely cold in winter. They're going to run fans, AC longer, resulting in increased demand on the grid.
- In some cases, will be more cost-effective to raze the house and build a new one.
- Some form of backup power is needed in every home that is also paired with a community resilience hub.
- Grid reliability and capacity with increased density are important.
- Ensure there is a reliable grid in every neighborhood.
- Who is going to bear the cost of air conditioning because of climate change and increasing heat waves?
- Are there considerations for community solar, given the need to retrofit older roofs?
- Prioritize electric resilience in the old infrastructure first.

What are equitable electric service priorities during an emergency outage, disaster, etc.?

- Companies like Microsoft and Google are taking advantage of bonds for green infrastructure. This is an option worth considering.
- Align the LA100 Equity Strategies with Justice40 and the state initiative on having 40% of federal infrastructure dollars directed to low-income communities. Also consider, which communities should be prioritized? Which areas in Los Angeles will bring the greatest change?
- Green hydrogen should also be considered.
- LADWP and NREL should be asking about available funding opportunities to fund the first 5-10 years of this work.
- Consider every scenario to finance equity into the grid.
- Financing
- The microgrid is a priority as it makes the entire neighborhood more resilient.

- It is important to understand the fabrication of homes in South Los Angeles. Many homes have little insulation, which causes colder in-home temperatures in winter and hotter in-home temperatures in summer.
- People will increase energy usage because of unsafe in-home temperatures.
- Building retrofit programs take a long time to deploy due to challenges with financing, among others.
- Mobility issues are important to consider, especially with elderly community members.

Major Themes from Steering Committee Questions and Discussion: Group 3

What does equity look like for the distribution grid? What are key outcomes for the following and how can we best measure/compare options?

- Put EV chargers in low-income neighborhoods so they aren't left out of the transition.
- EV charging has a head start, but there is a lack of resilience in neighborhoods (e.g., microgrids).
- EV charging stations must be in every neighborhood.
- Grid reliability (day-to-day power without interruptions)
- All solutions are necessary to apply everywhere.
- What does an equitable approach to a distribution grid look like?
- There are two different types of situations to consider: (1) regular day-to-day operations and reliability for the distribution grid and (2) emergencies like heat waves, earthquakes, or cyberattacks. Considering this, how can in-home options versus resilience hubs be prioritized?
- Develop more microgrids in neighborhoods.
- Bury the electric infrastructure underground to avoid maintenance issues.
- Ensure maintenance is proactive, rather than reactive after residents voice their concerns.
- Create committees in high impact communities and meet quarterly with them so LADWP can stay up-to-date on what is going on with the grid in their neighborhoods.
- A longer-term plan that is regularly updated is needed to continue working on equity in the long run.

What are equitable electric service priorities during an emergency outage, disaster, etc.?

- Resilience hub-type opportunities (e.g., community centers) for cooling, vehicle and phone charging, and potentially water purification
- Resilience hubs are important for community members to know there is a place with power and air conditioning. They should include a cooling center, charging, and clean water.
- Some research has shown that "cooling centers" are not highly used, so focusing on the individual home is also important.
- Electric buses also need to be kept running during extreme events to ensure people can get to their jobs/travel where needed.

- Water purification needs to be addressed in some neighborhoods as some communities have unsafe and undrinkable water.
- In-home options
- Need to focus on in-home resilience options first before we get to community hubs.
- DACs are the least likely to have backup water, power, and transportation during emergencies. Maintenance needs to be proactive in finding faulty wires and power-system issues because power and water outages create an immediate crisis for communities.
- Citizens need to know how long power is expected to be out so that they can find alternative cooling and refrigeration.
- Undergrounding wires would be helpful for electric resiliency.

Major Themes from Steering Committee Questions and Discussion

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- Need to focus on in-home resilience options first before we get to community hubs.
- DACs are the least likely to have backup water, power, and transportation during emergencies. Maintenance needs to be proactive in finding faulty wires and power-system issues because power and water outages create an immediate crisis for communities.
- Microgrids
- Citizens need to know how long power is expected to be out so that they can find alternative cooling and refrigeration.
- Undergrounding wires would be helpful for electric resiliency.

Wrap Up and Next Steps

Joan Isaacson shared that the upcoming Steering Committee meetings will take place on July 20, 2022, and August 17, 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 an update on LADWP's SLTRP and scenarios and metrics for rates/affordability, buildings, and solar and storage.

Pjoy Chua, Assistant Director of Transmission Planning, Regulatory, and Innovation at LADWP, thanked everyone for their continued participation and expressed the importance of the input shared to ensure the Steering Committee is part of the planning process and progress of the LA100 Equity Strategies study. She noted that the project team will continue to update the Steering Committee on its progress. Pjoy Chua thanked the Steering Committee members for their time.

Major Themes from Steering Committee Questions and Discussion

- Can you send the calendar invites for meetings to both primary and alternate members?
- Will there be a way for Steering Committee members who weren't able to join today to also provide feedback on the questions asked?

LA100 EQUITY STRATEGIES

Appendix

Steering Committee Meeting #8
June 15, 2022
Presentation Slides

LA DWP NREL Transforming ENERGY UCLA

LA100 Equity Strategies
Steering Committee Meeting #8
June 15, 2022

LA DWP

NREL
Transforming ENERGY

UCLA

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

Denis Obiang
Manager
Transmission Planning

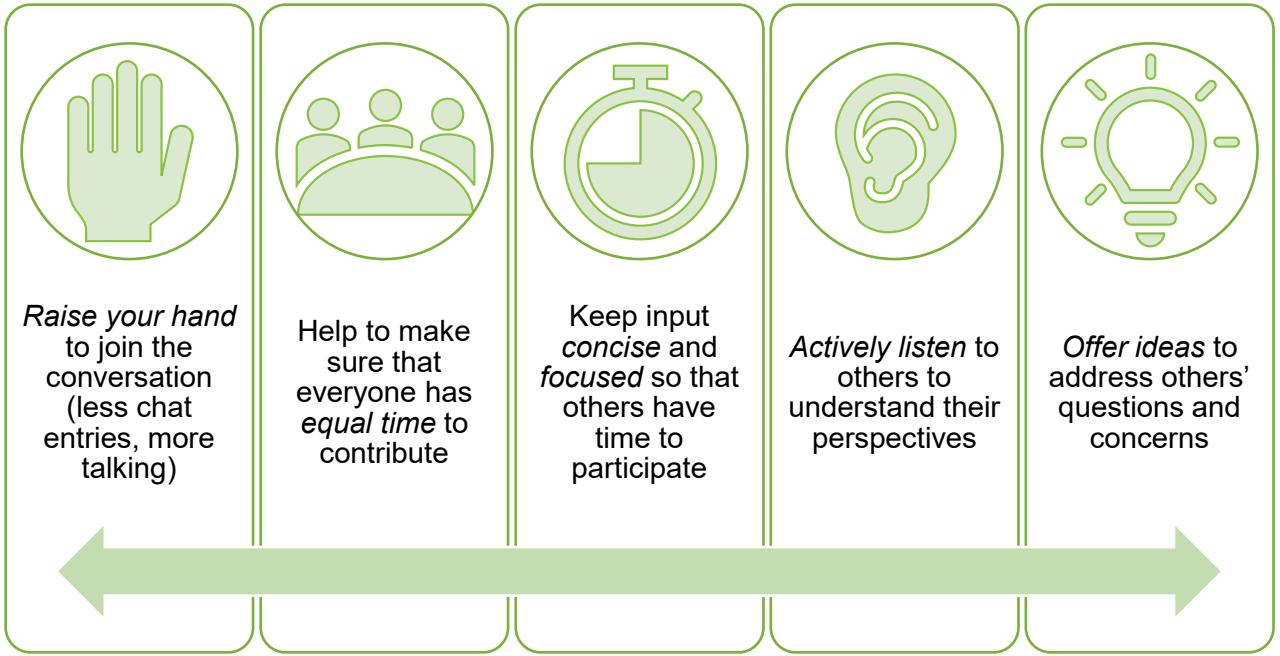
Steve Baule
Utility Administrator
LA100 Equity Strategies Oversight & UCLA Contract Administrator

Stephanie Spicer
Community Affairs Manager

Agenda

Start Time	Item
10:00 a.m.	Welcome
10:05 a.m.	Meeting Purpose and Agenda Overview
10:10 a.m.	LADWP Strategic Long-Term Resource Plan
10:40 a.m.	Q&A
11:00 a.m.	Equity Outcomes and Metrics Breakout Group Discussions • Truck Electrification Air Quality and Health Impacts • Solar and Storage • Grid Resiliency and Distribution Grid Upgrades
11:55 a.m.	Wrap Up and Next Steps

Our Guide for Productive Meetings



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
RePower 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

Including Future Agenda Items

Tentative Schedule

This Meeting

- Strategic Long-Term Resource Plan
- Guidance on equity outcomes/metrics
  - Truck electrification air quality and health impacts
  - Local solar and storage for resilience
  - Grid resiliency and distribution upgrades

July 20, 2022

- Feedback on strategies/metrics for:
  - Buildings
  - Electric vehicle (light duty) electrification and charging
  - Rates and affordability
- Affordability Analysis

Future Meetings

- Equity metrics
  - How are we measuring success?
  - Energy justice metrics and guardrails.
  - How are we using equity metrics?
- Future Technical Topics
  - 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.
- Co-Develop Equity Strategies.

LADWP's
Strategic Long-Term Resource Plan

Roadmap to an Equitable Carbon-Free Future

LA100

ACHIEVING 100% RENEWABLE ENERGY IN LOS ANGELES

LA DWP

LA100 Study

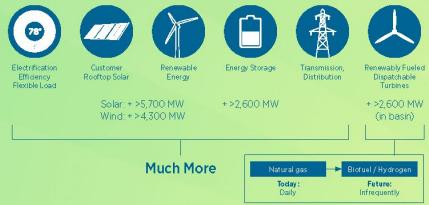
Completed

Unprecedented analysis ID'd multiple paths to achieve 100% target

Considers reliability, equity, sustainability and affordability

- Confirmed 100% by 2035 achievable
- Community & stakeholder input

Common Investments Across All Scenarios



LA100 Equity Strategies

Fall 2021-23

Community-driven, objective to achieve equity

Robust community engagement

Areas of Focus

- Improve air quality
- Solar access
- Energy Efficiency
- Affordable rates
- Demand management
- Debt relief
- EV charging access

2022 SLTRP

Fall 2021-2022 | 2035 & 2045 Targets

Our comprehensive integrated power plan

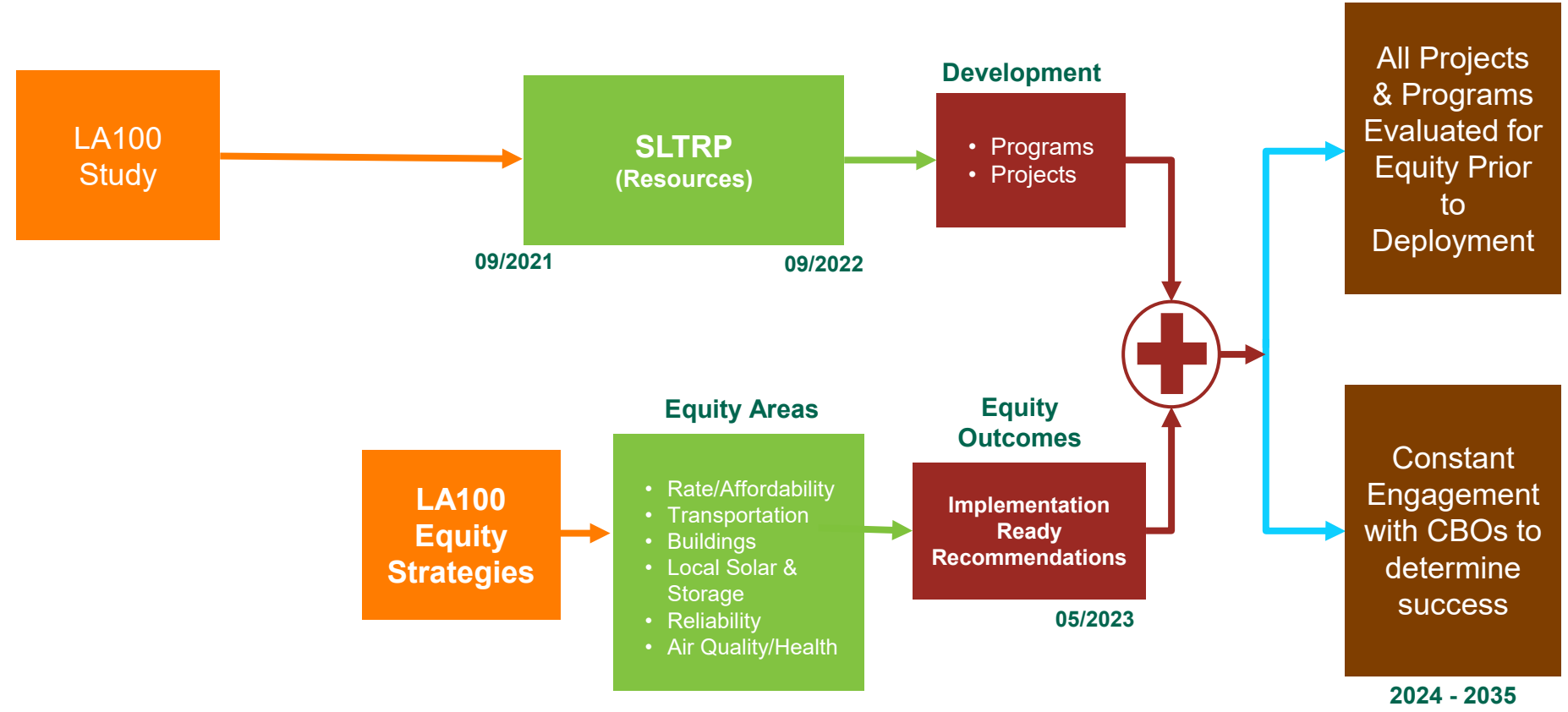
Recommends path forward to achieve our goals

- Integrates findings of LA100
- Community & stakeholder input
- Prioritizes reliability, resiliency, equity, affordability, sustainability

Considerations

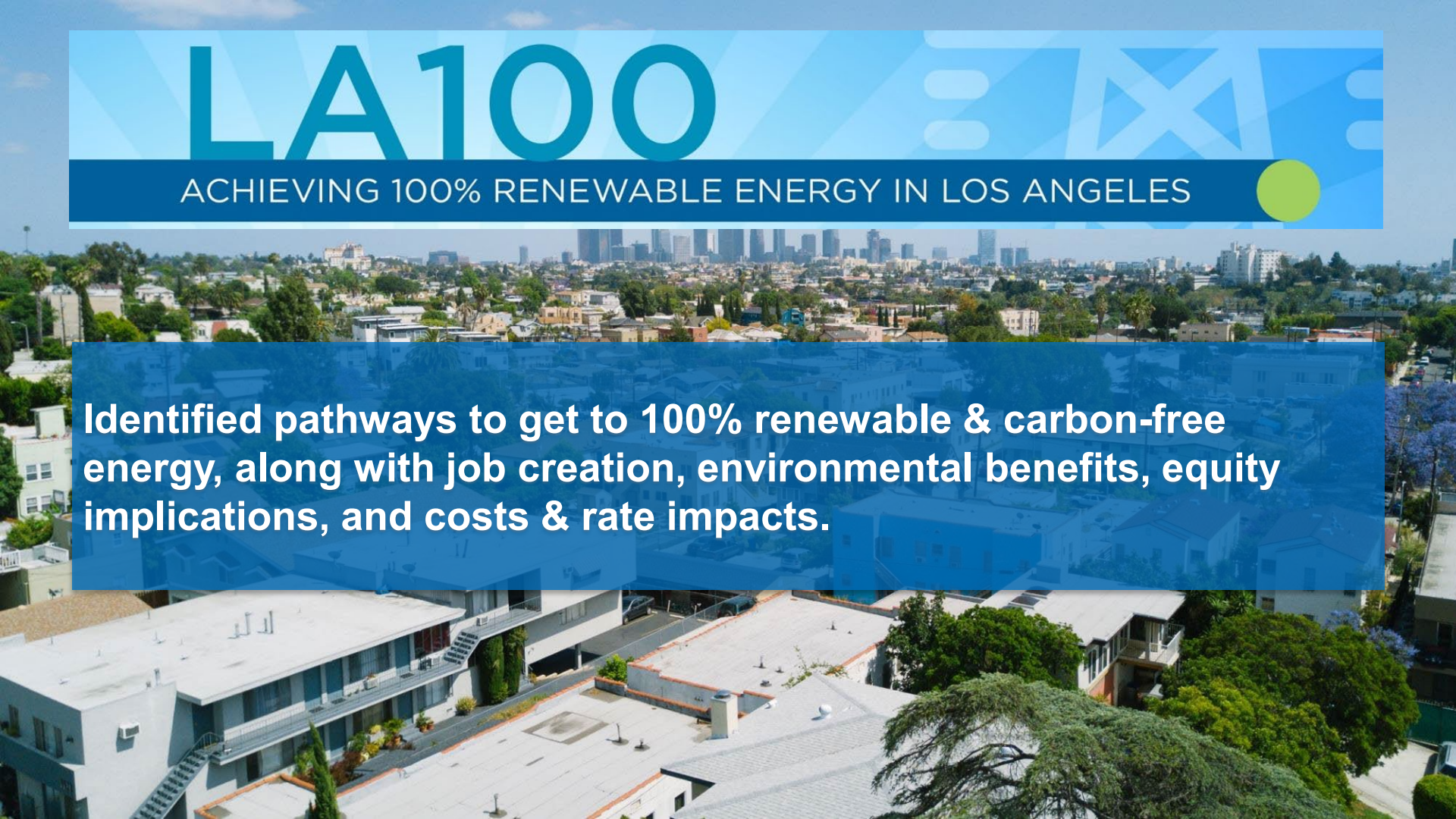
- Workforce
- Building, Operating & Maintaining
- Cost to customers
- Supply Chain Risk
- Implementation and Feasibility

Interdependency between SLTRP and Equity Study



LA100

ACHIEVING 100% RENEWABLE ENERGY IN LOS ANGELES



Identified pathways to get to 100% renewable & carbon-free energy, along with job creation, environmental benefits, equity implications, and costs & rate impacts.

Based on LA100 findings, Mayor and City Council set accelerated targets and requirements for developing the 2022 SLTRP

- **City Council Motion (No. 21-0352):**
  - New target to achieve 100% carbon free by 2035 (with equitable and minimal adverse impact on ratepayers) with interim goals of 80% renewables and 97% carbon free by 2030.
  - Prioritize equity in SLTRP for EJ communities. Ensure no increase in emissions at EJ communities.
  - Report on “no-regrets” projects, accelerated pathway, and “shovel-ready” projects.
  - Report on community engagement strategies.
  - Six-month report card to ECCEJR, including challenges and barriers.

LA100 Study Caveats for SLTRP

- Scenarios to achieve 100% by 2035 assume ability to quickly scale up hydrogen infrastructure.
- Major new and expanded transmission are among the most uncertain inputs to modeling the pathways to 100% renewable energy.
- The evolution of the power system outside of LADWP could impact LADWP's opportunities.
- The potential role of the customer has not been fully explored.
- Climate change could impact the ability of LADWP to maintain resource adequacy.
- The study did not fully assess the feasibility of the accelerated deployment; in particular, the study does not evaluate the availability of manufacturing supply chains and labor forces or detailed construction schedules for the resources identified in each scenario.

Overview: What is LADWP's SLTRP?

The Power Strategic Long-Term Resource Plan (SLTRP) is a roadmap to meet our future energy needs, comply with regulatory mandates, meet reliability requirements, and reduce emissions in a cost-effective manner.

Goals:

- **Develop a recommended scenario that guides our near-term actions and future energy planning through 2045.**
- **Provide a recommended path to achieve 100% carbon free by 2035.**

SLTRP Framework

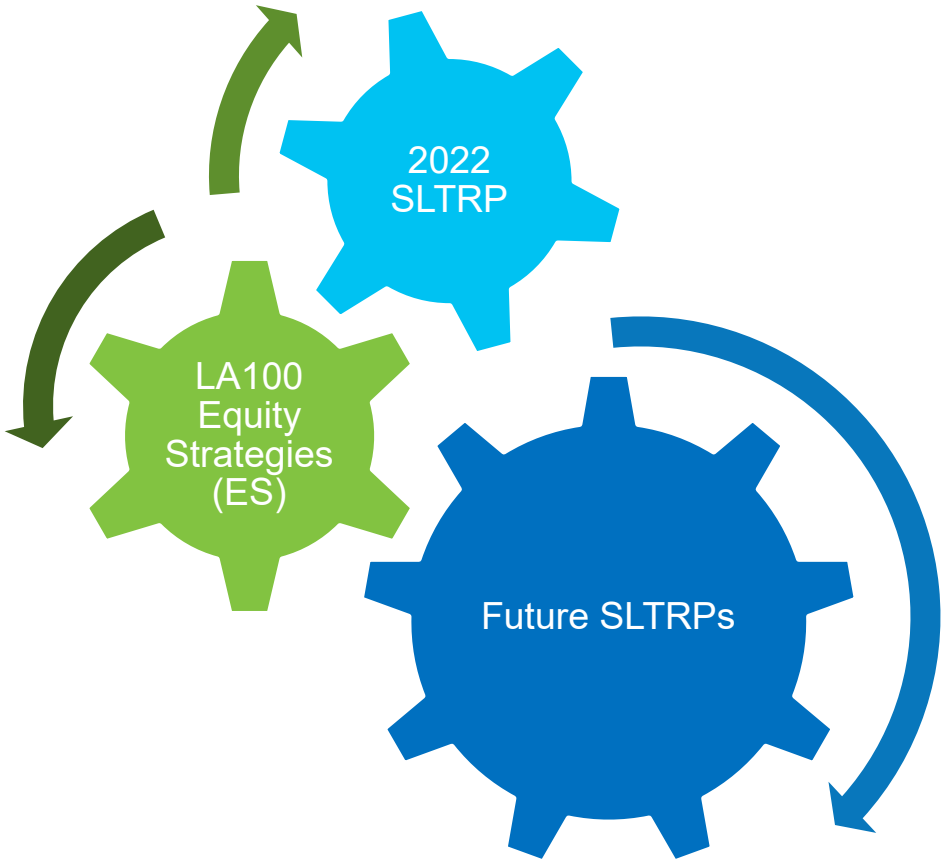
Guided by an Advisory Group of stakeholders from community, businesses, loca government, homeowners and customers

Updated annually with major stakeholder engagement every 2 years

Paused after 2017 while LA100 Study was underway

Resuming annual updates with the 2022 SLTRP

Iterative Planning Cycle



2022 SLTRP Advisory Group and Stakeholders

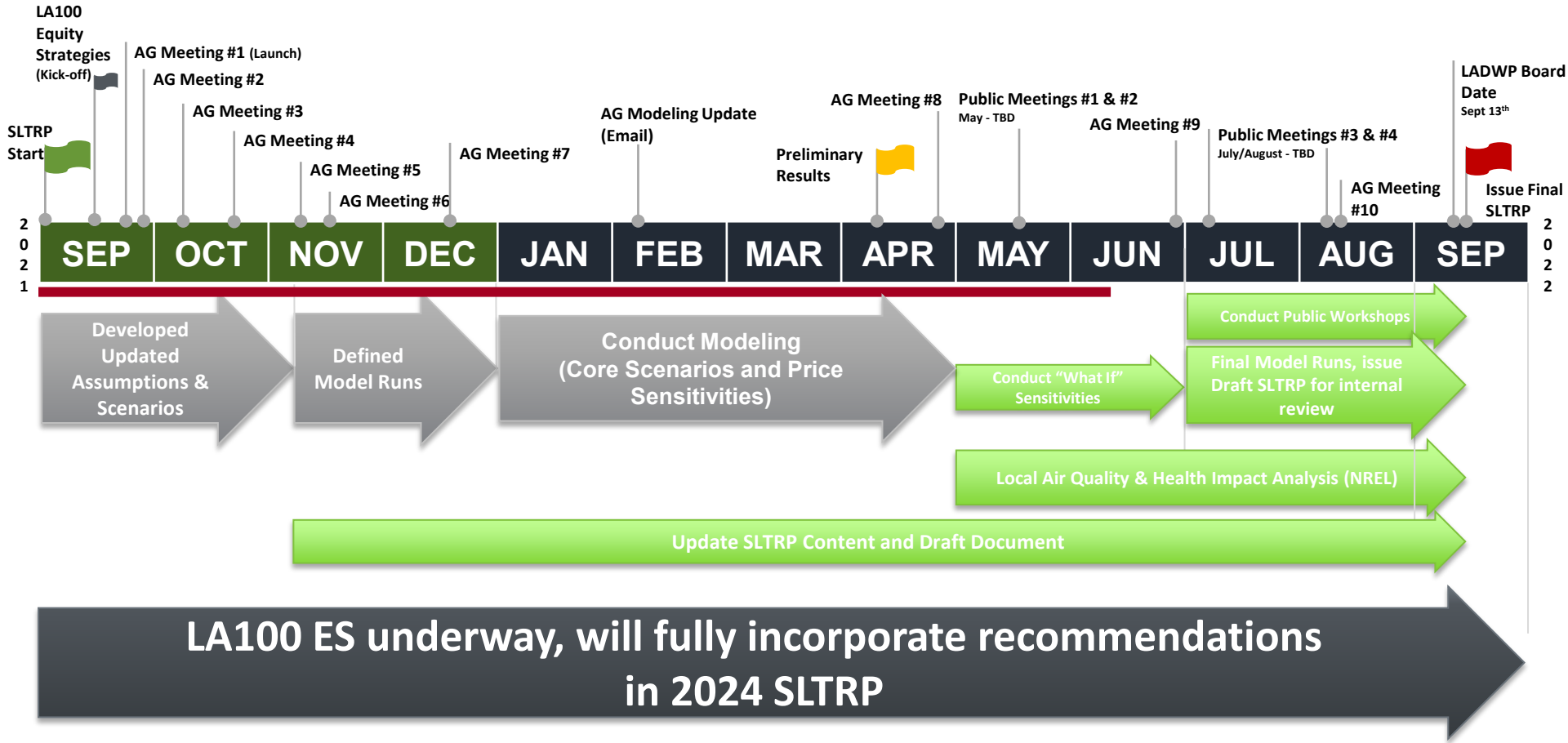
Stakeholder Category	Organization(s)
Academia	CSUN, UCLA, USC
Business and Workforce	AWEA, CESA, Cal SEIA, CEERT, Center for Sustainable Energy, Central City Assoc, IBEW – Local 18, LABC, LA Chamber, VICA
City Government	CLA, City Attorney, Council Districts, Rate Payer Advocate, Mayor's Office
Neighborhood Council	DWP Advocacy Committee, DWP MOU Oversight Committee, Neighborhood Council Sustainability Alliance
Environmental Community	CBE, Earth Justice, Environment California Research and Policy Center, EDF, Food and Water Watch, NRDC, LAANE, Sierra Club
Premier Accounts and Key Customers	LAUSD, LAWA, Metro, POLA, Valero Wilmington Refinery
Utilities	Southern California Gas, SCPPA
Total	

Internal Stakeholder Groups	Input Provided for SLTRP
Financial Services Organization	Load Forecast and Sensitivities, Capital Costs, Rate Impacts, System Losses
Power External Energy Division	Fuel Price Forecast and Sensitivities, Hoover and Small Hydro, IPP Cost and Assumptions
Power Engineering and Technical Services	Power System Reliability Program Re-vamp
Power Transmission Planning, Reg. & Innovation	LA100 Equity Strategies, Regulatory Compliance, 10-year Transmission Plan
Power Resource Planning, Dev. & Programs	Candidate Resources, Distributed Solar, Distributed Energy Storage, Demand Response, In-Basin Capacity Needs
Environmental Affairs	Greenhouse Gas Price Forecast
Efficiency Solutions	Energy Efficiency and Building Electrification
Others	National Renewable Energy Laboratory, Community Affairs

Advisory Group Meeting Plan

Phase 1 | Q3 2021 Launch & Laying Foundation	Phase 2 | Q3 2021 Scenario Development	Phase 3 | Q4 2021 Modeling	Phase 4 | Q1-2 2022 Results	Phase 5 | Q2-3 2022 Outreach
#1 September 23 • Advisory Group Launch • LADWP Overview • LA100 (Achieving 100% Renewable Energy) • 2022 SLTRP Orientation • Advisory Group Protocols & Operating Principles	**#4** October 22 • Customer Focused Programs - Energy Efficiency & Building - Electrification - Transportation Electrification - Demand Response • Draft Scenario Matrix	**#7** December 17 • LA100 Equity Strategies Overview • Energy Storage Presentation • 2022 SLTRP What-If Sensitivities Discussion • Final Scenario Matrix	February (Email Update) • Modeling Progress Check-in, • Upcoming Board Meetings	**#9** June 30 • Preliminary Results on What-if Sensitivities May – August TBD Community Outreach Meetings
#2 September 30 • LA100 Study Review (NREL) at 9 am • LA100 Rates Analysis (OPA) at 10 am • LA100 Next Steps (LADWP) • LA100 Assumptions (PSRP) • Consider Topics for October 22 • Consideration of Scenario Definition	**#5** November 10 • LA100 "No Combustion" Scenario • 2022 SLTRP Assumptions • Metrics & Evaluation Process • Scenario Considerations • Refine Scenario Matrix	November – May • Internal Modeling • Analysis of Scenarios	**#8** April 28 • Preliminary Results on Core Scenarios • (Capacity Expansion, LOLP and Production Cost Model)	**#10** August 11 Public Outreach Results August Review Draft 2022 SLTRP
#3 October 08 • SLTRP Deep Dive • SB100 Review (LADWP) • 100% Carbon-Free by 2035 Requirements (NREL) • Green Hydrogen in LA (LADWP) • 2022 SLTRP Key Considerations and Potential Scenarios	**#6** November 19 • Distribution Automation • 2022 SLTRP Advisory Group Feedback and Refined Draft Scenario Matrix • 2022 SLTRP What-If Sensitivities Discussion	Modeling Underway	TBD Potential field trip	September Submit Final 2022 SLTRP for approval

2022 SLTRP Timeline



2022 SLTRP Key Elements (Planning)

Public Engagement:
Advisory Group input
Equity Strategies engagement
Community & stakeholder outreach

Planning Considerations:
Future resource mix
Legislative and Regulatory Mandates
Resource Adequacy
Greenhouse Gas Emissions
Program Revenue Requirements
Rate Impacts
Minimizing Usage of Valley
Resiliency

2022 SLTRP Key Considerations (Implementation)

- How long do projects take to build?
  - California Environmental Quality Act (CEQA) timeline
- How much power do we need for local neighborhoods?
- Understanding emerging technologies and maturity (e.g. green hydrogen, energy storage)
- Deadlines for retiring ocean-cooled generating units (Scattergood, Haynes & Harbor)

Incorporating SLTRP Advisory Group Feedback

AG Feedback from First 7 Meetings	LADWP's Response
Model only 100% Carbon Free by 2035 scenarios	✓ All scenarios will model 100% Carbon Free by 2035 in compliance with Council motion
Include a "No Combustion" scenario and long-duration energy storage	✓ "What-If" sensitivities added
Understand capital expenditures and cost, customer cost to electrify	✓ SLTRP will evaluate cost and rates, and estimate bill impacts
Model emerging technologies and develop a process to evaluate	✓ Developing a process for reviewing and assessing new technologies
Explore "low load" sensitivities and impact to rates	✓ Will model a "low load" sensitivity and related bill impacts
Ensure environmental justice and study local air quality impacts	✓ Partnering with NREL to conduct Local Air Quality and Health Impacts analysis for SLTRP

SLTRP Refinements Over the LA100 Study

Strategy	LA100 Study Assumptions	SLTRP Updated Assumptions	Impact to Customers
Power System Reliability Program	All existing distribution overloads would be address by LADWP before any LA100 investments are made	Incorporated $60B from 2022-2045 to address existing and future overloads due to electrification	Prepare LADWP's grid for transportation and building electrification, resulting in economy wide emissions reductions
Electric Vehicle Charging Shapes	Moderate Load Scenarios: Unmanaged EV charging, 2020-45 High Load Scenarios: Managed EV charging, 2020-45	SLTRP Scenarios: Morphing from unmanaged to managed EV charging, 2022-2045	Optimizes renewables and customer cost, creates incentives for EV customers, improves reliability and emissions reductions
Net Energy for Load (Sales)	NEL of 28,500 GWh in 2020	20% lower than LA100 in short-term but increases to LA100 level by 2045 (moderate load)	Short-term pressure on rates due to reduced energy sales and program revenue recovery
Peak Load (Capacity Needs)	Increased future peak loads for moderate and high load	Expected peak load is in between LA100's moderate and high load	Need for capacity remains the same

2022 Strategic Long-Term Resource Plan (SLTRP) – Core Scenarios

Los Angeles Department of Water & Power

SCENARIOS (100% Carbon Free by 2035)

CLEAN ENERGY TARGETS

	SB 100 Reference Case	Case #1	Case #2	Case #3
Total Renewable Portfolio Standard 2030	60%	80%	90%	90%
Total Clean Energy (Renewable, Hydro and Nuclear) Penetration Achieved 2035 vs. 2045	2035 80% 2045 90%	2035 100% 2045 100%	2035 100% 2045 100%	2035 100% 2045 100%
Distributed Energy Resource Deployments	Reference Levels	High Levels	High Levels	Highest Levels

2022 SLTRP Overview - Sensitivities

Commodity Prices	Examples	Price Sensitivity	Scenario to Apply
Fuel Prices*	Natural Gas, Green Hydrogen, etc.	High/low sensitivities	SB100, Case 2, Tentative Recommended Case
GHG Prices*	GHG Allowance Prices	High/low sensitivities	SB100, Case 2, Tentative Recommended Case
Renewables and Energy Storage Prices*	Solar, Wind, Geothermal, Li-Ion, flow, etc.	High/low sensitivities	SB100, Case 2, Tentative Recommended Case

**bookend scenarios to evaluate price sensitivities by matching low and high commodity prices:*

- ***Low Bookend:*** *Low natural gas prices, low hydrogen prices, low GHG prices, low renewable and energy storage prices*
- ***High Bookend:*** *High natural gas prices, high hydrogen prices, high GHG prices, high renewable and energy storage prices*

Implementation Risk	Description	"What-if" Sensitivities	Scenario to Apply
Emerging Technologies	No In-Basin Combustion Alternatives	Long duration capacity (e.g. Hydrogen Fuel Cells)	Case 1, Case 2, Case 3
Demand Side Resources	Demand Response	Reaching only half of the 576/633 MW of DR by 2035	Case 1, Case 2, Case 3
Transmission	Transmission Upgrades (over 10 projects by 2030)	More difficult in-basin upgrades not completed by 2030	Tentative Recommended Case
Load	Transportation/Building Electrification	Low Load and High Load	Tentative Recommended Case

SLTRP Outcomes

Outcomes of 2022 SLTRP

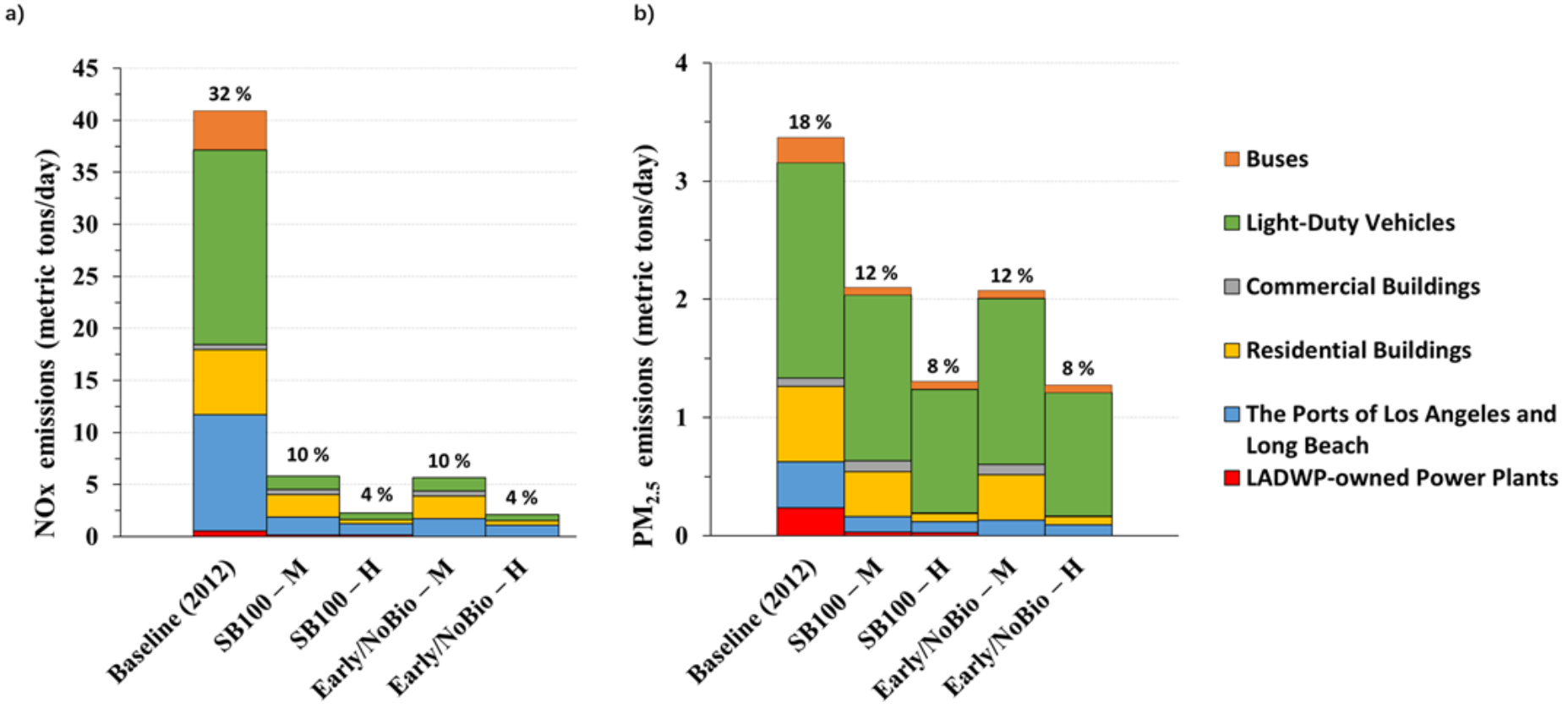
- High-level roadmap to 100% carbon free by 2035, driven by LADWP with stakeholder input
- Focus on big buckets of resources (large-scale renewables and energy storage, small-scale local solar and storage, EE and demand response, etc.)
- Modeling scenarios to determine best path to meet our mandates based on the guiding principles
- Integrates total Power System costs, infrastructure, resource planning, etc.

SLTRP Examples that relate to LA100 Equity Strategies

Reducing Use of Valley Generating Station

- LADWP to dramatically reduce utilization of Valley Generating Station:
  - The combination of **80% renewables** by 2030, **Haynes recycled water cooling,** and **Scattergood capacity** reduces Valley usage
  - Valley usage to be reduced from 30% to 5% thereby reducing adverse impacts on the local community
- Utilize significant space at Valley Generating Station for future clean energy projects

Electrification Drives Air Quality and Health Benefits



Deploying Distributed Energy Resources Equitably

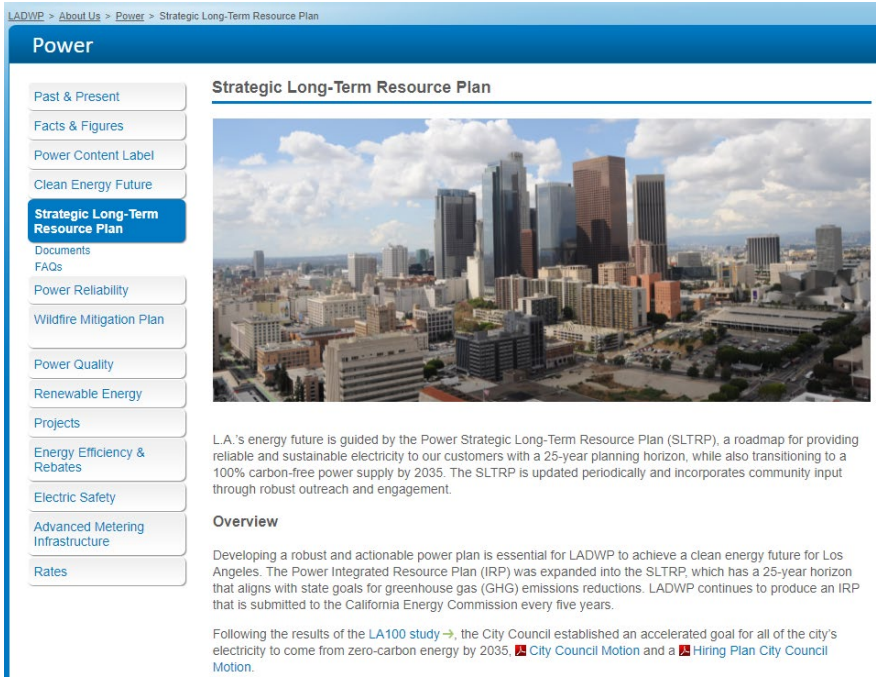
- We need: 1,000 MW of local solar, 500 MW of demand response, double energy efficiency, and support 580,000 electric vehicles by 2030.
- Progress:
  - LA100 Equity Strategies study through 2023
  - Expanded FiT from 150 MW to 450 MW
  - Launched FiT+ allowing energy storage
  - Launched VNEM Pilot Program
  - Expanded Power Savers (residential DR program)
  - More DER proposals under negotiations

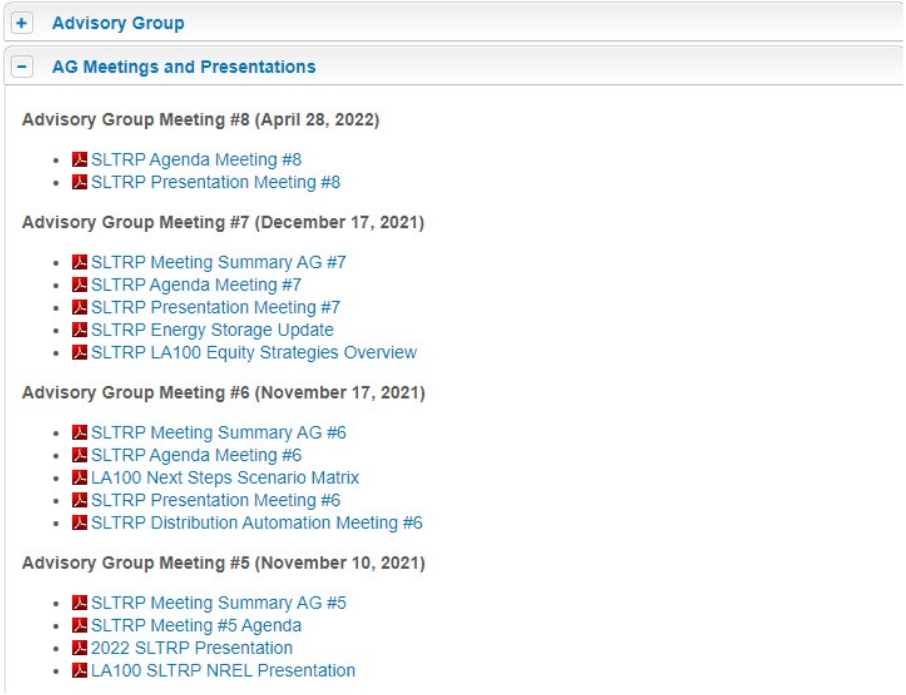
Key Takeaways on the 2022 SLTRP

- SLTRP is a living document; updated each year with stakeholder engagement every 2 years.
- 2022 SLTRP will identify the buckets for achieving goals. Within these buckets, LADWP will incorporate the LA100 ES findings.
- Expect to fully incorporate LA100 ES recommendations in 2024 SLTRP update.
- LA100 ES recommendations will inform future programs designs and bulk power development.

Communications & Public Affairs

- Website: *ladwp.com/sltrp*
- Email address: *powerSLTRP@ladwp.com*





Q&A

Equity Outcomes and Metrics Discussion

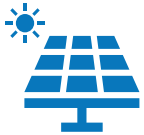
- Truck Electrification Air Quality and Health Impacts
- Local Solar and Storage
- Grid Resiliency and Distribution Upgrades

Modeling, Analysis, & Strategy Development

Equity Outcomes & Metrics

The goal of today's discussions is to hear feedback on **how we should measure success** in just distribution of:

Truck electrification air quality and health impacts



Solar and storage benefits

Grid resiliency and distribution grid upgrades

Modeling, Analysis, & Strategy Development

Shared:

100% clean electricity by 2035 with high electrification and efficiency

LA100 Equity Strategies **common scenarios:**

- **Reference:** LA100 (100% by 2035 with High electrification) without equity considerations
- **Equity strategies:** Achieve LA100 in ways that improve energy justice
- Some topics will explore variations (sensitivities) to explore which strategies achieve greater equity

Breakout Groups

Breakout Groups

Group	1	2	3
Steering Committee Member	Alliance of River Communities (ARC)	City of LA Climate Emergency Mobilization Office (CEMO)	Pacoima Beautiful
	The South Los Angeles Transit Empowerment Zone (SLATE-Z)	Move LA	Climate Resolve
	Strategic Concepts in Organizing and Policy Education (SCOPE)	RePower LA	Enterprise Community Partners
	Pacific Asian Consortium in Employment (PACE)	South LA Alliance of Neighborhood Councils	Esperanza Community Housing Corporation
	DWP-NC MOU Oversight Committee	Community Build, Inc.	Los Angeles Alliance for a New Economy (LAANE)

Truck Electrification Air Quality and Health Impacts

How do we measure success?

Should air quality and health benefits from truck electrification be targeted to:

A. Disadvantaged communities (DACs) defined by CalEnviroScreen
B. Neighborhoods with the poorest air quality
C. Neighborhoods with high rates of asthma or other health vulnerabilities
D. Neighborhoods with the highest potential for air quality improvements from truck electrification regardless of neighborhood characteristics (likely associated with high truck traffic areas)
E. Or another metric?

Local Solar & Storage

How do we measure success?

- Should equity in solar and storage be measured in terms of:
  - **Utility bill savings** from access to either rooftop PV or shared/community solar?
  - **Ownership** of rooftop solar and solar + storage systems?
- Should we focus on**:**
  - Customers in multifamily and renter-occupied buildings?
  - Low- and moderate-income households in all census tracts?
- **What approaches should be prioritized to expand equitable access** to solar and storage benefits (when 64% of Angelenos are renters)?
  - Customer ownership of rooftop PV/storage
  - Shared/community solar participation
  - On-bill financing (meter-based) leveraging utility buying power/credit
  - Utility or third-party ownership with monthly rental payments/pay-as-you-save?
  - Direct installs vs. rebates
  - Technical assistance

Grid Resiliency and Distribution Grid Upgrades

How do we measure success?

- **What does equity look like for the distribution grid?** What are key outcomes for the following and how can we best measure/compare options?
  - Equitable ability to charge EVs and install rooftop solar/storage
  - Grid reliability (day-to-day power without interruptions)
  - Electric resilience (access to electricity services during emergency outages)

- **What are equitable electric service priorities during an emergency outage**, disaster, etc.?
  - Resilience hub-type opportunities (e.g., community centers) for cooling, vehicle and phone charging, and potentially water purification?
  - In-home options?
  - Microgrids?

Wrap Up and Next Steps

Going Forward

Tentative

Steering Committee Meetings

July 20, 2022
Virtual

- Breakout Group Feedback on strategies and metrics
- Affordability and jobs

August 17, 2022
Virtual

- Equity strategies and metrics synthesis from June/July SC feedback

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!