



LA100 Equity Strategies
Steering Committee Meeting #9
July 20, 2022







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



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Agenda

| Start Time | ltem | |
|------------|---|--|
| | | |
| 10:00 a.m. | Welcome | |
| 10:05 a.m. | Meeting Purpose and Agenda Overview | |
| 10:10 a.m. | Affordability, Rates, and Revenue | |
| 10:50 a.m. | Equity Scenarios and Metrics Breakout Group Discussions | |
| 11:45 a.m. | Strategic Long-Term Resource Plan | |
| 11:55 a.m. | Wrap Up and Next Steps | |



Our Guide for Productive Meetings



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



Help to make sure that everyone has equal time to contribute



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



Actively listen to others to understand their perspectives



Offer ideas to address others' questions and concerns



Steering Committee Roster

| Organization | Representative | |
|---|---|--|
| Alliance of River Communities (ARC) | Vincent Montalvo | |
| City of LA Climate Emergency Mobilization Office (CEMO) | Marta Segura, Rebecca Guerra | |
| Climate Resolve | Jonathan Parfrey, Bryn Lindblad | |
| Community Build, Inc. | Robert Sausedo | |
| DWP-NC MOU Oversight Committee | Tony Wilkinson, Jack Humphreville | |
| Enterprise Community Partners | Jimar Wilson, Michael Claproth | |
| Esperanza Community Housing Corporation | Nancy Halpern Ibrahim | |
| Los Angeles Alliance for a New Economy (LAANE) | Kameron Hurt, Estuardo Mazariegos | |
| Move LA | Denny Zane, Eli Lipmen | |
| Pacific Asian Consortium in Employment (PACE) | Celia Andrade, Susan Apeles | |
| Pacoima Beautiful | Veronica Padilla Campos, Melisa Walk | |
| 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

- Affordability
- · Feedback on scenarios/metrics
 - Buildings
 - Affordability and rates
 - Electric vehicle (light duty) electrification and charging

August 17, 2022

 Equity scenarios and metrics synthesis from June/July Steering Committee feedback

Future Meetings

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

Energy Affordability and Policy Solutions Analysis

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



Affordability, rates and revenue

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

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

LCI's Three Affordability Analyses

Task 1. Structural and Baseline Affordability Considerations

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

Task 2. Energy Affordability Metrics

Identifying and analyzing goals and metrics to inform actionable plans

Task 3. Energy Affordability Policy Options

Identifying and analyzing priority policy options to inform actionable plans

Deliverables

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



Methods and Approach

General Approach

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

Goals

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

Baseline Affordability Considerations

Guiding Research Questions

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



Baseline Affordability Considerations

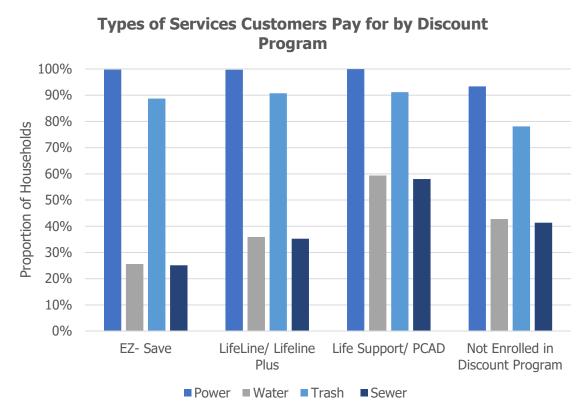
Data Sources

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

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



Considerations: Whole Bill Matters

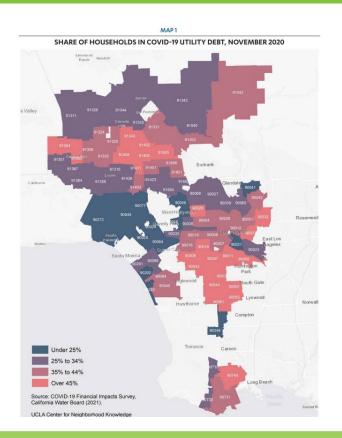


- The whole bill matters for affordability
- There are 15 combinations of the 4 services that can be on an LADWP bill
- The most common are:
 - Power only
 - Power & trash
 - Power, water, sewer & trash



Source: Calculation based on LADWP Service and Program Enrollment Data

Considerations: Inequitable debt burden

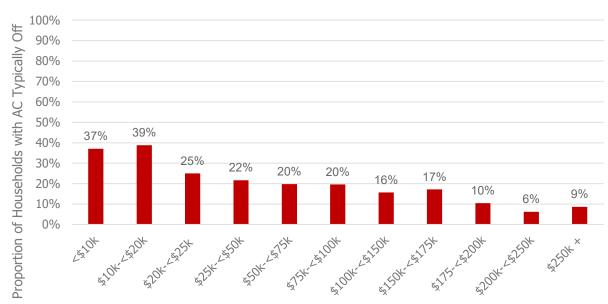


Source: Keeping the Lights and Water on: Covid-19 and Utility Debt in Los Angeles' Communities of Color (2021). Silvia R. González, Paul M. Ong, Gregory Pierce, and Ariana Hernandez. UCLA Centers for Neighborhood Knowledge and Luskin Center for Innovation



Considerations: AC Under-Consumption

LA City Households Not Using AC in the Evenings, By Income



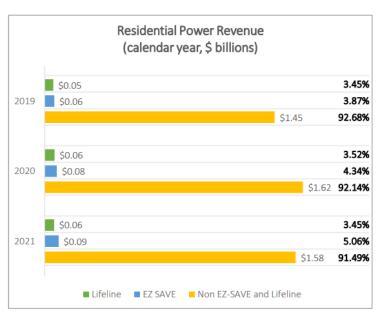
Annual Household Income Brackets

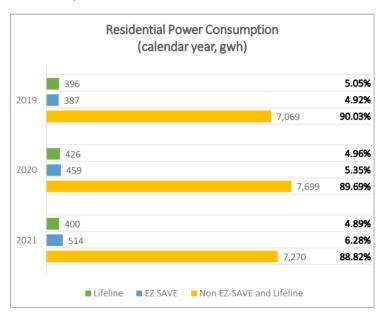
Source: CEC's 2019 Residential Appliance Saturation Survey (RASS)



Considerations: Revenue Impacts

Power Revenues and Consumption



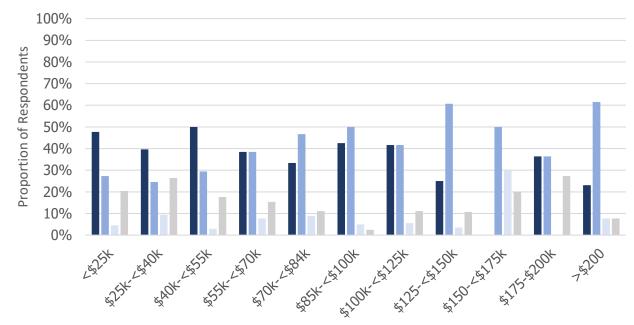


Source: LADWP CSD and FSO Estimate



Considerations: Program Barriers





- Don't know if eligible
- Know Eligible but choose not to participate
- Know NOT Eligible
- Don't understand how the program is administered

Source: Loyola Marymount University Survey Data



Metrics in 1st stage analysis

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

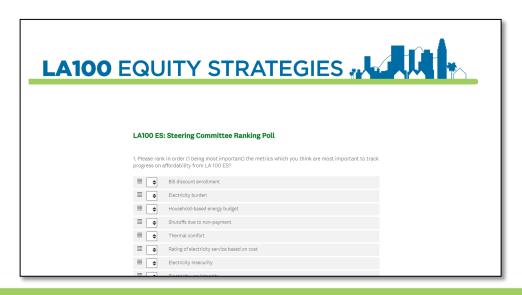
- Analyzed by: example goals, magnitude of impact addressed, impact ability, implementation and tracking feasibility, downsides, and precedents
- Data: academic literature, report review, and precedent of use by other utilities
- **Next steps:** narrow to 2-4 metric concepts for deeper analysis



Ranking of Metrics Poll

See SurveyMonkey link in Zoom chat. Please answer the first question only.

https://www.surveymonkey.com/r/LA100SC9



Scan QR code to access poll





Metrics Discussion

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



Policy Categories in 1st-Stage Analysis

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



Policy Categories in 1st-Stage Analysis

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



Ranking of Policy Categories Poll

See SurveyMonkey link in Zoom chat. Please answer the second question.

https://www.surveymonkey.com/r/LA100SC9



Scan QR code to access poll





Policies Discussion

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



25 Rate Structure Analysis for Affordability and Distributed Energy Access

Exploring Electricity Ratemaking for Affordability, Access, and DER Implementation

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

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

Research Questions:

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

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

Tasks:

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

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

²⁶ Rate Structure Analysis for Affordability and Distributed Energy Access

Discussion Questions

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

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

Small Business Affordability

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

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

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

Tasks:

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

Small Business Affordability

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

Survey Data Collection

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



Small Business Affordability

Discussion Questions

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

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



Thank you

Equity Scenarios and Metrics Discussion

- Buildings
- Affordability and Rates
- Light duty vehicle electrification and charging



Discussion Support Material



Steering Committee Discussion Support Material

Modeling, Analysis, Strategy Development July 20, 2022 Meeting

This document outlines the modeling, analysis, and strategy development approaches the National Renewable Energy Laboratory (NREL) in partnership with the University of California, Los Angeles (UCLA) will pursue with guidance from the LA100 Equity Strategies Steering Committee. The content in the document is intended to be a reference for steering committee members as part of a transparent co-development of strategies. Strategy development approaches are outlined here by technical area, though most are interdependent and all are relevant to the following prioritized impact areas identified through the steering committee and community engagement:

- Energy affordability and burdens
- Energy access and use
- · Health, safety, and resilience.

To observe the tenet of procedural justice and ensure equity strategies are developed through the guidance of community-based organizations representing underserved communities and with community input, the LA100 Equity Strategies project did not begin with a set modeling, analysis, and strategy development plan. Over 10 months of community and steering committee engagement, the following technical areas and strategy development pathways shown in Table 1 were prioritized

INREL UCLA

t Areas, Technical Areas, and Equity Strategy Development Pathways Reduced transportation energy burdens Universal access to home cooling Improved access to solar/storage, energy efficiency in multifamily and/or renter-occupied buildings Storage Access to equitable light duty electric vehicle (EV) and al Solar and Storage Targeted community solar siting al Solar and Storage Solar-plus-storage siting Resiliency in disadvantaged neighborhoods through Support of electric reliability through distribution grid upgrades to enable solar, storage, and EVs in disadvantaged communities Building weatherization and resilience to extreme Mitigation of medium- and heavy-duty vehicle health ail the strategy development approaches NREL will pursue in with continuous guidance from the steering committee and it for each of these areas. ed buildings modeling will be conducted and used to identify equity

nome cooling: Technology deployment pathways tailored to building type,

tion and resilience to extreme events: Optimized weatherization measures

e 1) will expand on previous LA100 work by differentiating all residential

ure, and census tract. The resulting differentiation will provide insight into

INREL UCLA

orbood, and household tenure (renter or owner) to provide universal

of building envelope improvements and HVAC systems) to increase

events, specific to housing type, income, and tenure.

nes while minimizing cost and bill increases

lines analysis, Building loads differentiated by building characteristics, income, tenure. I in solar + storage, grid reliability and resilience, rates, and buildings analysis to ology change and incentive strategies on affordability and inform program design.

ility revenue impacts across customer types and under multiple rate and enable identification of equity strategies to achieve

of how households of different income levels or in different locations consume

L to model the impact of technology change and different incentive strategies

Having detailed, differentiated energy loads correlated with building D (e.g., building type, building age, existing envelope quality, and appliance

y fuel type and the resulting affordability.

ev bill stability: Suites of technology, efficiency, and billing interventions to me household energy bills, tailored by household type, tenure, and income,

described above will be used to model customer bills for different household differentiated by income level, owner-occupied versus renter-occupied, and -disadvantaged census tracts. These bills, which represent revenues to the ad with modeled and forecasted utility costs to ensure the modeled retail revenue sufficiency. The baseline set of customer bills will enable estimation of esidential customers by sociodemographic factors. The bill calculator model rom electrification and technology adoption scenarios. The analysis will then ious rate design modifications and novel ratepayer-funded incentives to ow-income households, while also calculating associated program costs and





and affordability analysis. Customer bills and utility revenue will be calculated under to understand how tariff structures, technologies, and financing structures impac income level, owner versus renter, and disadvantaged and non-disadvantaged

ency adoption in multifamily and renter-occupied buildings will be and then analyzed and used to inform specific program improvements to achieve LA100 technology deployment levels and achieve:

to solar/storage and energy efficiency in multifamily and renter-occupied d strategies and deployment metrics to deliver solar, storage, and energyings and benefits to renters and residents of multifamily buildings. Ivantaged neighborhoods through siting of solar-plus-storage technologies: f solar + storage technologies for increased resilience and reduced energy

ntaged communities. nity solar siting: Pathways for location-specific community solar in nmunities that provide cost savings to low-income households and localized (e.g., backup power during a grid outage), It will include deployment metrics e LA100 clean electricity by 2035

ion will be modeled under multiple incentive scenarios and household mographic types as well as PV ownership versus virtual-net-metering or pation scenarios. Modelers will represent households by income, tenure type (including multifamily), and location to identify the bill sayings

INREL UCLA



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:



Building efficiency upgrades and electrification



Rates and affordability



Light duty vehicle electrification and charging



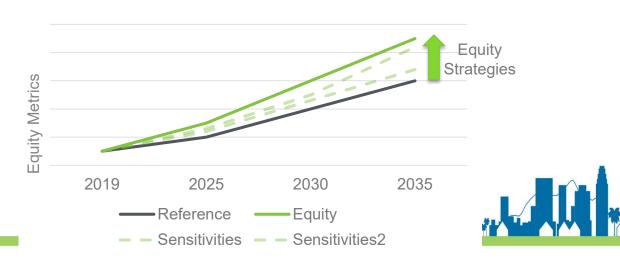


Modeling,
Analysis, &
Strategy
Development

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

- Buildings
- Affordability and Rates
- Light duty vehicle electrification and charging



Breakout Groups

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

Buildings

How do we measure success?

- Does success in improving access to energy efficiency in multifamily and/or renter-occupied housing mean prioritizing
 - Resident-owned technologies or
 - Building or utility-owned technologies?
- What would an impactful and compelling strategies look like to:
 - ensure universal home cooling?
 - deploy weatherization measures for health and comfort?

How might they be differentiated by community or housing type?

Affordability and Rates

How do we measure success?

- What strategies/approaches should be analyzed:
 - Expansion of existing programs?
 - e.g., Low-Income, Lifeline programs
 - Income-adjusted rates?
 - Maximum bills as fraction of income?
 - Rental/leasing/direct install with attractive financing for high energy efficiency equipment?
- Should strategies look for higher impacts in fewer, greatest need households, or look for reduced impacts for a larger group of the population?



³⁹ Electric vehicles (bikes, scooters and personal cars) and charging

How do we measure success?

Access

 The number of people or households in disadvantaged communities who can access EV chargers – home, workplace, and public?

Use (Adoption)

The number of people or households in disadvantaged communities who use EVs (e-bikes and/or personal cars) and electric vehicle charging? Or another metric?

Affordability

 Potential economic impact on or benefits of using or owning EVs for disadvantaged communities in terms of household income-expenditure?

LADWP's Strategic Long-Term Resource Plan

Roadmap to an Equitable Carbon-Free Future



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 (largescale 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.







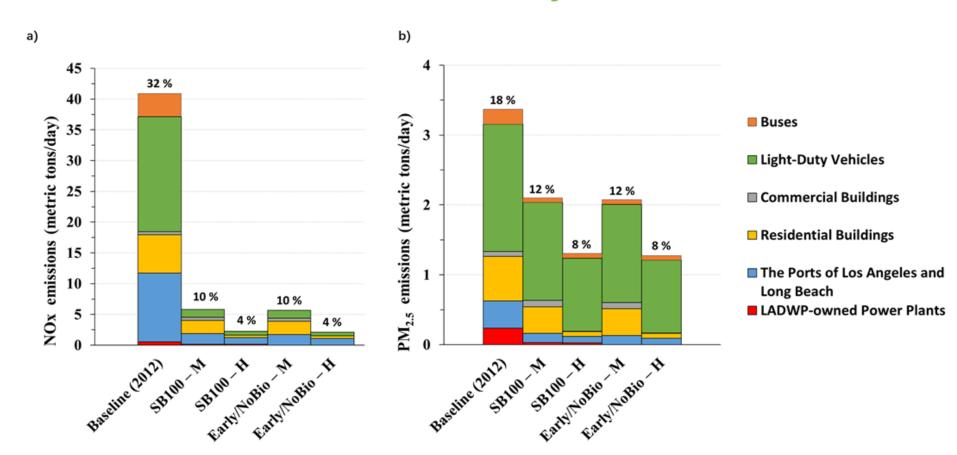


Reducing Use of Valley Generating Station

- 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



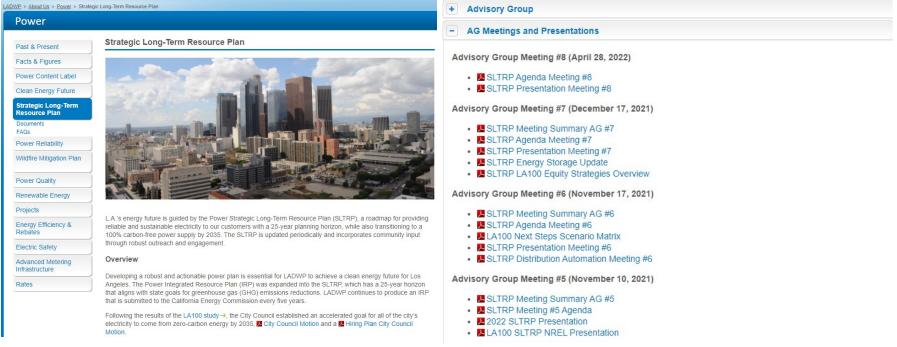


Key Takeaways on the 2022 SLTRP

- 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 Equity Strategies findings.
- Expect to fully incorporate LA100 Equity Strategies recommendations in 2024 SLTRP update.
- LA100 Equity Strategies recommendations will inform future programs designs and bulk power development.

Communications & Public Affairs

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



Q&A



Wrap Up and Next Steps



Going Forward *Tentative*

Steering Committee Meetings

August 17, 2022 Virtual

- Update on project progress
- Summary and metrics synthesis from June and July breakout groups and the impact on equity scenario development

September 21, 2022

Virtual

- Air quality and health medium- and heavy-duty vehicle emissions impact modeling approach – presentation and feedback
- Workforce development

Subsequent Meetings

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



What would you like to discuss in upcoming meetings?

Drop your agenda suggestions in the chat!



Thank you!