

March 2, 2022

The Honorable City Council
City of Los Angeles
Room 395, City Hall
Mail Stop 160

Attention: Councilmember Mitch O'Farrell, Chairperson - Energy, Climate Change,
Environmental Justice, and River Committee

Honorable Members:

Subject: Council File No. CF 21-0352 - LA100/Strategic Long-Term Resource
Plan/2035 100 Percent Carbon-Free Energy/Los Angeles Department of
Water and Power

The enclosed presentation was provided in Committee to supplement the report in response to the subject referenced motion requesting the Los Angeles Department of Water and Power (LADWP) provide a report card on LADWP's efforts to prepare a Strategic Long-Term Resource Plan that achieves 100 percent carbon-free energy by 2035, in a way that maintains reliability, is equitable, and has minimal adverse impact on ratepayers.

If you have any questions or if further information is required, please call me at (213) 367-1338, or have your staff contact Ms. Leilani Johnson Kowal, Interim Director of Legislative and Intergovernmental Affairs at (213) 367-3023.

Sincerely,



Martin L. Adams
General Manager and Chief Engineer

LJK:nsh

c/enc: Councilmember Paul Koretz, Vice-Chair Energy, Climate Change, Environmental
Justice, and River Committee
Councilmember Gil Cedillo, Member Energy, Climate Change, Environmental
Justice, and River Committee

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Councilmember Kevin DeLeon, Member Energy, Climate Change, Environmental Justice, and River Committee
Councilmember Paul Krekorian, Member Energy, Climate Change, Environmental Justice, and River Committee
Mr. Eric Villanueva, Office of the City Clerk
Ms. Leilani Johnson Kowal

Agenda Item 12

(PRESENTATION: POWER SYSTEM - JAMES BARNER)

Council File No. CF 21-0352 - LA100/Strategic Long-Term Resource Plan/2035 100 Percent Carbon-Free Energy/Los Angeles Department of Water and Power



**LA100 Report Card and 2022 Power Strategic
Long-Term Resource Plan Update
Roadmap to 100% Carbon Free by 2035**

James C. Barner
Assistant Director, Power System Resource Planning, Development, & Programs
February 17, 2022

STRATEGIC LONG-TERM RESOURCE PLAN (SLTRP)

100% Carbon Free by 2035

Maintain Reliability and Resiliency

Prioritize Environment and Equity

Minimal Adverse Impact on Rate Payers

City Council Resolution (September 1, 2021) File No. 21-0352

- 1) Instructs SLTRP to achieve 100% carbon free by 2035 (equitable and minimal adverse impact on ratepayers)
- 2) Prioritize equity in SLTRP for EJ communities. Ensure no increase in emissions at EJ communities.
- 3) Report on “no-regrets” projects, accelerated pathway, and “shovel-ready” projects
- 4) Report on community engagement strategies
- 5) Six-month report card to ECCEJR, including challenges and barriers

LA100 Bi-Annual Report Card

- First edition report card for Feb 2022
- Very high level overview of a very complex subject
- Welcome further feedback and suggestions for improvement



STRATEGIC LONG-TERM RESOURCE PLAN (SLTRP)

100% Carbon Free by 2035

Maintain Reliability and Resiliency

Prioritize Environment and Equity

Minimal Adverse Impact on Rate Payers

- **Key Progress Updates**

- Red Cloud Wind (in-service Dec 2021)
- Integrated Human Resource Plan (IHRP) (Q3, 2022)
- SLTRP (Q3, 2022)
- LA100 Equity Strategies (underway and on-schedule for 2023 completion)
- Comprehensive Affordable Multifamily Retrofits (CAMR) (launching spring of 2022)
- Advanced Metering Infrastructure pilot project underway

- **Risks to Implementation Schedule**

- **On Track:**
 - Renewable Portfolio Standard (RPS)/Energy Storage (ES)
- **Medium Risk:**
 - Transmission
 - Generation Station (GS) Modernization Efforts
 - Distributed Energy Resources
- **High Risk:**
 - Distribution System
 - Electric Vehicles – EV Charging



LA100

ACHIEVING 100% RENEWABLE ENERGY IN LOS ANGELES



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

2022 SLTRP TIMELINE



2022 STRATEGIC LONG-TERM RESOURCE PLAN (SLTRP) – CORE SCENARIOS



SCENARIOS (100% Carbon Free by 2035)

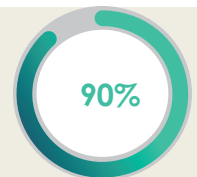
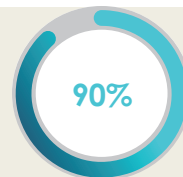
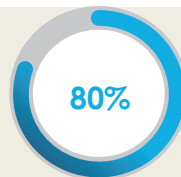
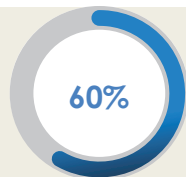
SB 100
Reference Case

Case #1

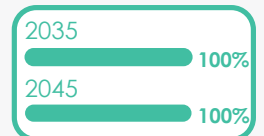
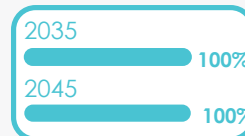
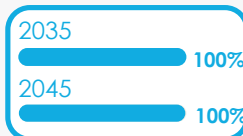
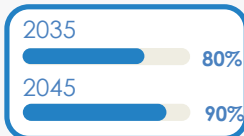
Case #2

Case #3

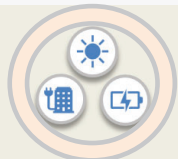
**Total Renewable
Portfolio Standard
2030**



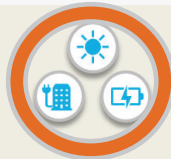
**Total Clean Energy
(Renewable, Hydro and Nuclear)
Penetration Achieved
2035 vs. 2045**



**Distributed Energy
Resource
Deployments**



Reference Levels



High Levels



High Levels



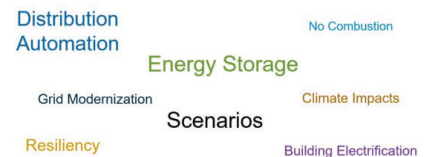
Highest Levels

CLEAN ENERGY TARGETS

Advisory Group Feedback

AG Feedback from first 7 Meetings

- 1) Model only 100% Carbon Free by 2035 scenarios
- 2) Include a “No Combustion” scenario and long-duration energy storage
- 3) Understand capital expenditures and cost, customer cost to electrify
- 4) Model emerging technologies and develop a process to evaluate
- 5) Explore “low load” sensitivities and impact to rates
- 6) Ensure environmental justice and study local air quality impacts



LADWP's Efforts to incorporate:

- 1) All scenarios comply with City Council Motion for 100% carbon free by 2035
- 2) “What-If” Sensitivities added. Presentation given on energy storage
- 3) SLTRP will evaluate cost & rates
- 4) Developing a process for “Technology Scouting and Innovation Assessment”
- 5) Will model a “low load” sensitivity
- 6) Partnering with NREL to conduct Local Air Quality and Health Impacts for SLTRP

~20 various presentation topics given at SLTRP meetings to date

PUBLIC OUTREACH PLAN

PURPOSE:
Conduct community meetings at the beginning of the review and comment period and use other communication methods to provide information and publicize opportunities to provide input



Public Workshops



AG Meetings

PURPOSE:
Provide perspectives on major issues that LADWP will face in the next 25 years, input and review of strategic scenarios that are used in the resource analysis, and input on final recommendations and near-term actions

PUBLIC WORKSHOPS

4 Meetings Total

- Public Meeting #1 & #2 – May 2022
- Public Meeting #3 – July 2022
- Public Meeting #4 – August 2022

2022 SLTRP

Risk Factors

Identified Risk Factors	How 2022 SLTRP will Assess and Address
Cost and Rate Impacts	Price sensitivities to bookend costs
Transmission Builds	Seek legislative relief for permitting
Staffing and Workforce	Integrated Human Resources Plan
Electrification Adoption Rates	Load Sensitivities
Reliability	Conduct modeling to simulate variability of weather (stochastics)
Resiliency	Simulate the effects of wildfires and other natural disasters
Supply Chain	Identify bottlenecks and impacts to scale and cost
Implementation and Feasibility	LA100 Implementation Efforts



RISK FACTOR – ELECTRIFICATION ADOPTION REQUIRES DISTRIBUTION INVESTMENTS

- Capacity Needs for Electrification
 - Over 650 MW Receiving Station capacity shortfall by 2040
 - Over 800 MW of Distributing Station capacity shortfall by 2040
 - Need to build/expand at minimum 10 new stations by 2040
 - **In the last 20 years LADWP has built four stations**



- Hundreds of Stressed Distribution Assets
 - A third of all feeders (>500 distribution lines) are over capacity
 - **Existing replacement targets need to increase several fold**

***LA100 Study –
Maintaining low rates requires high electrification***

2022 SLTRP Next Steps

Short-term	Long-term
Complete Modeling of Core Scenarios <ul style="list-style-type: none"> Finalize Modeling Assumptions <ul style="list-style-type: none"> Set up IPP hydrogen model – February 2022 Set up candidate resources for capacity expansion modeling – February 2022 Update production cost modeling data (e.g., fuel pricing, customer load, etc.) – February 2022 Capacity expansion modeling – March 2022 Resource adequacy modeling – March 2022 Production cost modeling – April 2022 Conduct price sensitivities – April 2022 Preliminary results – May 2022 Public Outreach Meetings – May 2022 thru August 2022	Compile SLTRP Document <ul style="list-style-type: none"> Update and compile SLTRP document – Ongoing through September 2022 Submit SLTRP document for review – August 2022 Issue final SLTRP document for Board review – September 2022 Submit IRP based on 2022 SLTRP to CEC – 2023 through 2024 Launch next SLTRP – 2023 or 2024 Additional Advisory Group Meetings <ul style="list-style-type: none"> AG Meeting #8 – May 2022 AG Meeting #9 – June 2022 AG Meeting #10 – August 2022

Discussion and Q&A

