Communication from Public

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Comments for Public Posting:	Please see comments (attached) from Sierra Club & Communities for a Better Environment in response to LADWP's 2022 Draft Strategic Long Term Resource Plan.

Summary of Sierra Club & Communities for a Better Environment Comments on LADWP's 2022 Draft Strategic Long Term Resource Plan
February 17, 2023

See the full comments here.

There are several laudable elements to LADWP's 2022 Draft SLTRP, including the ambition of its scope, endorsement of vehicle and home electrification efforts, and its thorough review of options to meet LA's renewable energy goals. However, the SLTRP also has multiple flaws that must be addressed to meet the City's climate targets, provide clean, reliable power to Angelenos, mitigate old, and prevent new environmental injustices.

To address these issues, we urge LADWP to:

1. **Incorporate the Inflation Reduction Act (IRA) incentives for investments in clean energy, transmission, and storage into the next round of modeling.**

Since LADWP began development of this SLTRP in late 2021, the U.S. Congress passed the IRA, which includes over $391 billion in tax credits and direct spending for clean energy and transmission investments, with amplified incentives for investments in EJ communities. IRA funding for federal tax credits can significantly decrease the cost of resources such as distributed solar and energy storage, especially if these resources are produced using U.S. manufactured components and then sited in "energy communities." LADWP's service area includes multiple "energy communities," including brownfield sites, or areas with significant amounts of direct employment or local tax revenue related to oil and gas activities. The IRA also includes incentives for energy efficient and electrified homes and vehicles, potentially lowering consumer demand for electricity as well as helping to manage peak energy demand. The potential impact of these tax credits on LA Basin clean energy development could shift the outcomes of SLTRP's modeling to indicate less projected need for hydrogen power plants, making it particularly important to include the IRA in analysis.

2. **Identify the risks associated with its hydrogen plans to ensure a full cost-benefit analysis.**

The SLTRP evaluates three scenarios, all of which include converting gas-fired power plants to run on 100% green hydrogen by 2035. However, there are a wide range of cost uncertainties that could make these projects excessively expensive or infeasible, as well as outstanding questions about impacts to air quality, climate, cost, and safety. Investing prematurely in entirely new hydrogen infrastructure when future costs may be high or permitting may prove too difficult to complete by 2035 could result in stranded costs that ratepayers would be required to pay off over decades.

One key uncertainty is the specialized pipeline system required to prevent steel embrittlement and hydrogen leakage. Hydrogen leakage poses severe safety risks, as it is odorless, colorless, and highly combustible. Furthermore, combustion of pure hydrogen to produce electricity is not commercially available.

Additionally, hydrogen combustion produces nitrogen oxide (NOx) emissions. NOx is an air pollutant that itself causes respiratory health impacts, but can also react in the atmosphere to form ozone and particulate matter, which also contribute to respiratory and cardiovascular health impacts. The SLTRP models hydrogen-powered plants running very infrequently, resulting in low anticipated NOx emissions. However, this modeling neglects the likelihood that during heat emergencies, high electricity demand may cause much more frequent plant operations, resulting in significantly increased NOx emissions during periods of grid stress. Times of extreme heat coincide with poor air quality, particularly in the LA basin. Burning hydrogen has the potential to amplify already hazardous levels of air pollution during these times. Even further, the actual operation frequency, and subsequent NOx emissions, of hydrogen-burning power plants may be higher than modeled if transmission expansions are not completed or if transmission is interrupted (e.g. wildfire-related outages).

3. **Develop new non-combustion modeling scenarios that include:**

   a. **Transmission alternatives**

The SLTRP incorrectly assumes that LADWP operates as a “physical island” with no ability to trade power with neighboring utilities.To the contrary, over the last 6 years, LADWP has imported a significant amount of electricity during peak hours and even exported electricity during last summer’s heat wave. The LA100 report shows that continuing to buy and import energy would reduce the need for expensive and dangerous in-basin combustion.

LADWP can also maximize the delivery of low-cost renewables into the LA Basin by modeling and using advanced technologies to increase capacity on existing transmission corridors. This would not only benefit ratepayers by minimizing the need to build expensive hydrogen plants, but also make LADWP’s system more resilient to severe weather and wildfire risk, as there is more capacity on alternate transmission paths to pick up the slack if one transmission corridor is taken out of service. LADWP should include energy imports and exports, in addition to potential transmission upgrades, in its modeling.

b. Additional and strategic distributed energy resource deployment, including Virtual Power Plants (VPP), demand response, and electric vehicles

Virtual Power Plants (VPP) are essentially a fleet of many distributed energy resources, like rooftop solar and batteries, that use software to control and operate them together as a single grid-scale resource. A VPP offers flexible, dispatchable energy that utilities would otherwise rely on centralized power plants to provide. Several VPPs already operate in California and can improve grid reliability, keep energy costs affordable, and support and stimulate transportation and building electrification, while advancing goals of equity and public health.

Demand response operates by incentivizing customers to reduce their energy use during times of peak demand and minimizes the need to run power plants. The LA100 Study acknowledged the potential for demand response as a significantly cheaper alternative to in-basin combustion. The potential for demand response is great in part because automation allows it to occur without any action by the customer, and often with minimal impact on the customer—or even without the customer being aware of it.

Lastly, LADWP should plan for vehicle-to-grid integration. This would include shifting electric vehicle charging from evenings to midday, which would take advantage of excess solar generation and reduce peak evening energy demand. Additionally, LADWP should consider how EV's could contribute to the grid as distributed batteries during times of grid stress.

By supporting DER deployment among low-income customers specifically, LADWP could meet multiple objectives at the same time by investing in low-income communities, increasing bill savings, expanding access to distributed resources, and decreasing the need for in-basin power plants.

c. Long duration energy storage (LDES) alternatives

Multiple LDES technologies such as iron air batteries, flow batteries, and liquid air energy storage are evolving quickly and could meet or decrease LADWP's projected need for in-basin generation resources. An unprecedented amount of both federal and state funds have recently been made available for the development and deployment of long duration batteries, which can provide up to 100 hours of electricity storage.

d. Offshore wind

Since the LA100 report was conducted, offshore wind has advanced considerably as a viable source of base energy. Because offshore wind generation on the California coast peaks around 6 pm year-round, when solar generation decreases, it couples well with other renewables and aligns well with Los Angeles peak demand in the evening, when the modeling relies on burning hydrogen. Studies show that offshore wind generation also peaks specifically on August evenings and into September, when LADWP projects customer demand to peak as well.

4. **Consider innovative rate design to incentivize demand reduction during peak demand and eliminate the need for hydrogen combustion**

Rate design can also change customer behavior and encourage technology adoption to decrease peak demand while supporting building and vehicle electrification. Within time-of-use rates, a steeper peak-time to off-peak cost differential can incent customers to electrify their homes and vehicles (and increase their electricity demand) without imposing new peak load demands on the grid, thus reducing the need to invest in new peaking capacity like hydrogen combustion. All of California's major investor-owned utilities have adopted similar optional rates.[1] This is also a way for LADWP to encourage customers to bring more distributed energy resources online to support in-basin generation capacity.

5. **Update rate projections and bill savings to incorporate savings from avoided fossil fuel costs**

The SLTRP indicates that energy efficiency and distributed energy resources are major cost drivers of rates, but it fails to show the benefits from the displacement of gas bills and transportation fuel costs, as well the adoption of distributed energy resources (DERs). It is misleading to include the costs of electrification but not the benefits. For DERs, cost savings for LADWP customers is likely to lead to more rooftop solar and storage adoption, since installing solar can reduce energy costs for residents substantially. LADWP should identify programs, strategies, and priorities for DER adoption for low-income households to help ensure that any potential benefits accrue to those households who need it most and avoid inadvertently exacerbating energy cost burdens.

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[1] *See, e.g.*, Pacific Gas & Electric, *Electric Home Rate Plan (E-Elec)*, (last visited Feb. 16, 2023), https://www.pge.com/en_US/residential/rate-plans/rate-plan-options/electric-home-rate-plan.page. *See, also*, Southern California Edison, *Time-of-Use Residential Rates - TOU-D-Prime*, (last visited Feb. 16, 2023), https://www.sce.com/residential/rates/Time-Of-Use-Residential-Rate-Plans.