LADWP Power Strategic Long-Term Resource Plan (SLTRP)

Advisory Group (AG): Meeting #5

Wednesday, November 10, 2021
10:00 am – 12:00 pm
WebEx Platform (Virtual)

Meeting Summary (Draft)[1]

Attendees:

Advisory Group Members/Observers

1. California Energy Storage Alliance (CESA), Jin Noh
2. California State University, Northridge (CSUN), Loraine Lundquist
3. Center for Energy Efficiency and Renewable Technologies (CEERT), John V. White
4. City of Los Angeles – Climate Emergency Mobilization Office, Marta Segura
5. City of Los Angeles - Council District 02, Councilmember Paul Krekorian, Matt Hale
6. City of Los Angeles - Council District 03, Councilmember Bob Blumenfield, Jeff Jacobberger
7. City of Los Angeles - Council District 05, Councilmember Paul Koretz, Andy Shrader
8. City of Los Angeles - Office of the City Administrative Officer (CAO), Ida Rubio
9. City of Los Angeles - Office of the City Administrative Officer (CAO), Sarai Bhaga
10. City of Los Angeles - Office of the City Attorney, Jean-Claude Bertet
11. City of Los Angeles - Office of the Mayor, Chief Sustainability Officer, Lauren Faber O'Connor
12. City of Los Angeles - Office of the Mayor, Paul Lee
13. City of Los Angeles - Office of the Mayor, Rebecca Rasmussen
14. City of Los Angeles – Office of Public Accountability (OPA), Camden Collins
15. City of Los Angeles - Office of Public Accountability (OPA), Frederick Pickel
16. Food and Water Watch, Jasmin Vargas
17. LADWP Advocacy Committee, Jack Humphreville
18. LADWP Assistant General Manager, Chief Diversity, Equity, and Inclusion Officer, Monique Earl
19. LADWP Memorandum of Understanding Oversight Committee, Tony Wilkinson
20. Los Angeles Business Council (LABC), Adam Lane
21. Los Angeles Unified School District (LAUSD), Christos Chrysiliou
22. Los Angeles World Airport (LAWA), Carter Atkins
23. National Resources Defense Council (NRDC), Amanda Levin
24. Neighborhood Council Sustainability Alliance (NCSA), Dan Kegel
25. Neighborhood Council Sustainability Alliance (NSCA), Ravi Sankaran
26. Pacoima Beautiful, Veronica Padilla
27. Sierra Club, Francis Yang
28. Sierra Club, Katie Ramsey
29. Southern California Gas Company (SoCalGas), Jonathan Peress
30. Southern California Public Power Authority (SCPPA), Randy Krager
31. University of California, Los Angeles (UCLA), Bonny Bentzin
32. University of Southern California (USC), Zelinda Welch
33. Water and Power Associates, Bill Engels

[1] This summary, prepared to the best ability of the notetakers, is provided as synopsis of the meeting for review of topics covered, and is not intended to represent an official record or transcript of all matters presented or discussed. Not all attendees may be reflected due to early log-offs, no self-identification, and other factors.

34. Water and Power Associates, William Barlak
35. 9495****05

LADWP Staff

1. Stephanie Spicer
2. Jay Lim
3. James Barner
4. Daniel Beese
5. Michael Buck
6. Kai Choi
7. Dawn Cotterell
8. Jonathon Flores
9. Robert Hodel
10. Alan Hwang
11. Carlos Jimenez
12. Jimmy Lin
13. John Levy
14. Paul Habib
15. Ashkan Nassiri
16. Bernardo Perez
17. Jason Rondou
18. Nermina Rucic
19. Armen Saiyan
20. Faranak Sarbaz
21. Steve Ruiz
22. Jonathan Tang
23. Louis Ting
24. Carol Tucker
25. Jeremiah Valera
26. Jesse Vismonte
27. Lisa Yin
28. Lister Yu
29. Eric Montag
30. Luis Martinez

Project Team

1. Joan Isaacson, Kearns & West (Facilitator)
2. Alyson Scurlock, Kearns & West (Polling)
3. Jasmine King, Kearns & West
4. Brady Cowiestoll, National Renewable Energy Laboratory (NREL)
5. Paul Denholm, National Renewable Energy Laboratory (NREL)
6. Brandon Mauch, Ascend Analytics
7. Zach Brode, Ascend Analytics

Note: The meeting presentation slides are posted at ladwp.com/sltrp.

1. Welcome and Introductions

- Joan Isaacson, meeting facilitator from Kearns & West, welcomed the Advisory Group (AG) to

AG Meeting #5. Isaacson announced that there is one more AG meeting scheduled for November, after which there will be a break while the team performs analysis.

2. Meeting Purpose and Agenda Overview

- Isaacson explained that today's meeting would cover LA100 "No In-Basin Combustion" Scenarios, followed by an overview of 2022 SLTRP assumptions and evaluation metrics, as well as draft scenario matrix refinements.
- Jay Lim, LADWP Manager of Resource Planning, showed areas of AG feedback from previous meetings, indicating interest from some AG members for a "no in-basin combustion" scenario as part of the 2022 SLTRP. Lim explained that LADWP recognized some SLTRP AG members may not have been involved in the LA100 AG process, thus for this meeting, NREL was being asked to present on several modeling instances of "no in-basin combustion" that were performed as part of the LA100 Study process. Furthermore, Lim specified that while some resource technology uncertainties currently exist, LADWP will continue to refine such assumptions and update technology advances with each iteration of the SLTRP.

3. LA100 "No In-Basin Combustion" Scenarios

- Dr. Brady Cowiestoll presented for NREL, highlighting the following three instances as main challenges of a 100% renewable energy system: 1) When there is not enough renewable energy, 2) When renewable energy cannot be imported into the basin successfully, and 3) When renewable energy cannot get to the right places in-basin.

- Regarding the challenge where not enough renewable energy is available, Cowiestoll showed how during times when renewable supply exceeds demand, energy storage assets charge up to store the excess energy, and that excess energy is used towards meeting demand when renewable supply is less than demand. However, during times of good sun but low night-time wind, the modeling shows there is not enough energy to charge energy storage assets, and there comes a point where the energy stored in these assets becomes depleted. One option to try to counter this problem is to overbuild the system with more solar and energy storage resources, however, the system eventually reaches a saturation point where more resources of the same type, such as solar and energy storage, begin to decline in value to the system. This is primarily due to the system needing more capacity (or capability to instantaneously meet demand) instead of energy (consumption over a certain time period). The takeaways from this first challenge are that there a few days where relying solely on wind, solar, and traditional storage does not meet the required supply to meet energy demands, and that the system would have to be drastically overbuilt, at a very high economic cost, in addition to having adequate transmission access, to be able to adequately supply energy during these challenging times.

- Regarding the challenge of not being able to import renewable energy into the basin successfully, Cowiestoll highlighted that in a 100% renewable energy system, there would be many hours across each year, where LADWP would be depending on out-of-basin resources to meet demand. This resulted in large power flows across the existing transmission networks and revealed that the transmission system would be depended on quite heavily for meeting demand. The takeaway from this second challenge is that sometimes transmission breaks, and during such periods of stress on the system, there needs to be either new, redundant transmission paths to continue bringing in out-of-basin resources, or something in-basin to replace out-of-basin resources for a few days.

- Regarding the challenge of not being able to get renewable energy to the right places in-basin, Cowiestoll explained how LADWP's power system was designed in part around power plants at specific locations in the basin, where it is supported by external transmission in the north and existing generators in the south. Currently, transmission limits and outages can be addressed by running generators in the southern part of the system. The takeaway from this challenge was that it may be difficult to deliver energy to all points within the basin without new transmission or in-basin generation at specific locations.

- Cowiestoll went on to explain two instances in the LA100 Study upon which "no in-basin combustion" scenarios were analyzed. The first, was during initial scenario definitions in which the Early/No Biofuels scenario did not include hydrogen of any sort and reliability challenges were identified, thus the AG allowed the inclusion of hydrogen at all locations. The second, was a final scenario sensitivity around the Early/No Biofuels scenario that included no combustion resources within the LA basin, however was not fully analyzed through all tools used for the main scenarios.

- Exploring the initial scenario definition of the Early/No Biofuels scenario which did not include hydrogen (this scenario shows preliminary findings but was not fully studied nor is a conclusion of the study), a lot of dispatchable renewable generation and energy storage was built outside of the LA basin in the form of geothermal and concentrating solar power. Initial modeling runs showed that a large amount of the morning, evening, and night hours were met with wind, geothermal, and concentrating solar power resources. This resulted in more in-basin and out-of-basin transmission being built and showed that serious challenges arose in continuing to carry energy into the basin during longer-duration transmission outages, leading to load shed under some instances of in-basin transmission outages, and proving that the system was not resource adequate.

- Exploring the final scenario sensitivity of the Early/No Biofuels scenario, Cowiestoll explained that this "no in-basin combustion" sensitivity was only modeled using capacity expansion (What do we build? Where and When?) but did not model production cost (hourly operational dispatch), resource adequacy (Is the system resource adequate? Is the probability of system failure acceptable?), nor power flow (Is the system stable under normal conditions and after outages?). At a high-level, the results showed that capacity was shifted outside of the basin, in addition to more deployment of solar coupled with storage. A greater reliance on more in-basin and out-of-basin transmission was also shown, as the "no in-basin combustion" sensitivity required approximately 5 additional lines (~1,000 MW) more than the core Early/No Biofuels scenario.

- In contrast to the "no in-basin combustion" scenario, capacity expansion modeling results showed that the expected capacity factor of all hydrogen facilities in the Early/No Biofuels core scenario was in the single digits, thus indicating that hydrogen was being used very infrequently and only when absolutely needed to maintain system reliability, such as in the case of outage conditions on the grid. The key takeaways were that in-basin long-term dispatchable resources are used infrequently under normal grid conditions, but may be heavily relied upon during stress grid conditions; lack of in-basin long-term dispatchable resources leads to increased reliance on the transmission system, which creates vulnerability to transmission outages; and that high-impact low frequency events such as wildfires can be very disruptive in systems with heavy reliance on transmission.

- Major Themes from Advisory Group Member Discussion and Questions
  - To address the lack of real estate for more in-basin resources, could there be considerations for underground grid development, similar to tunneling for LA Metro, for resources such as distributed energy resources (DERs)? There is a lot of underutilized space owned by City entities in this region and it is time to get creative and work together before discounting solutions due to land constraints. Perhaps Elon Musk's tunneling technology at the Boring Company?
    - *A: We have to carefully consider where our transmission lines are, as well as our stations in our service territory. If we do acquire more land, we have to figure out how to connect to our system. We are looking to expand within the space at our stations and have to work together with the City, as there may be many entities within the City competing for the same resources. Land constraints will be a challenge no matter what. We need to build tens of new stations in the next few years and have only built about two in the last two decades. Transmission requirements will aggravate this. Even before LA100, distributed energy resources were already posing a challenge. We are getting creative to see what we can do, but getting it done in reality is something else. In addition to reliability, we also have to address resiliency concerns. We can bring back the suggestion for closer consideration.*
  - LADWP is about to pilot long-duration liquid air energy storage at Beacon. Generally, batteries stop making financial sense at around 4 hours or so of duration.
    - *A: LADWP is continuing to monitor the advancement of battery energy storage technology, however sees challenges with charging during high peak loads when transmission is maxed out, as well as challenges with multi-day outages due to extreme events, and the required footprint.*
  - Doesn't the utilization challenge also apply to combustion facilities, as they would be used rarely and be very expensive during their limited hours of operation? How are hydrogen plants better than renewable energy at overcoming the utilization challenge?
    - *A: The main challenge is the declining capacity credit and value after a resource like solar reaches system saturation. More solar plants add more energy to the same hours, thus the addition of solar would have to be extremely high and overbuilt, to the point where it becomes more economical to consider other resources. The LA100 Study forecasts that hydrogen turbines will be used primarily for backup under stress load conditions, and are needed to achieve the last 10% of carbon-free, as energy storage relies on intermittent and variable renewables. Hydrogen will support renewable energy in the event of stressed load conditions and events such as loss of transmission due to a wildfire, where renewable energy may not be able to be brought in to the load centers. During such conditions, firm local capacity is required to get through the extreme events.*
  - Do the demand scenarios include reduction from energy efficiency standards?
    - *A: Yes, the SLTRP energy efficiency assumptions include codes and standards.*
  - Fuel cells operating on biofuels can produce both renewable electricity and renewable hydrogen, without combustion.
  - How much total in-basin solar and storage was assumed in the LA100 Early & No Biofuels scenario? It appears LADWP is assuming ~35% in-basin solar penetration and we can do better.
    - *A: The results are available on the LA100 Study website (www.la100study.com)*

and anyone can query by technology and scenario.

- LADWP might want to consider building a hydrogen electrolyzer at Harbor, and sell surplus to refineries, to reduce in-basin gas demand, and help phase out Aliso Canyon. Another option can be siting an electrolyzer across the road from Scattergood, and consider storing hydrogen via a new, safe well drilled from there to a depleted gas field.
- In-basin combustion units can also provide emergency generation with methane during 1-in-100-year extreme events, which would provide peace of mind.
- Comments on reliability being very important, with severe consequences if the lights go out.
- Comments about the undergrounding of transmission lines being extremely expensive and sounding like "mission creep".
- Comments about ensuring adequate generation is retained in-basin first for reliability, and dealing with the fuel type later; and the new challenge against reliability through opposition to the use of combustion altogether regardless of fuel type.
- Why is there hesitation about in-basin green hydrogen? Given some stakeholder hesitation towards in-basin hydrogen and affinity for local distributed generation, LADWP should include a scenario where there is no in-basin hydrogen or biomass. It can be enlightening to see how the system fares with a heavy reliance on distributed systems and the impact of overall reliability. It may help us all see what some are trying to describe.
- Comments on federal reliability standards and how transmission-only as a resource, without resources with a 24x7 generation capability, may not comply.
- The hesitation around in-basin hydrogen is that (1) hydrogen at utility scale has not been demonstrated yet, (2) it is likely to be very expensive, and (3) it raises air quality concerns as nitrous oxides may increase dramatically compared to gas-fired power plants.
- The presentation appears to juxtapose as a binary proposition either building more transmission or more in-basin generation. How is NERC (North American Electric Reliability Corporation) bulk reliability modeled, as well as voltage support, given that cannot be met solely through transmission?
    - *A (NREL): Many in-basin resources were modeled as inverter-based resources with the capability of providing voltage support, in addition to frequency response from battery energy storage systems. The challenging instances were more related to the thermal limits of the transmission system and the power system's response after a fault.*
- It seems from NREL's work that a "no in-basin combustion" alternative revealed a dramatic effect on the transmission system, and that the transmission system would have to be upgraded. Will the SLTRP just conduct capacity expansion and production cost modeling, and if so, and you end up adopting a "no in-basin combustion" scenario, how will you be able to address the transmission component?
    - *A: The LA100 Study already attempted to study this and performed some analysis, so the SLTRP process is not going to attempt to repeat this as it would not be as comprehensive and robust, and power flow modeling is outside of the scope of the SLTRP process. The way the process is set up, the SLTRP team hands over the recommended case to Transmission Planning, and iterations are performed year after year. In future SLTRPs, we may have latitude to incorporate what the transmission planning assessments indicate, but at this*

time, we want to build off the key takeaways from the multi-year LA100 Study.

4. 2022 SLTRP: Assumptions and Evaluation Metrics

- Robert Hodel, LADWP Supervisor of Integrated Resource Planning, presented an overview of the preliminary input assumptions that will be used for the SLTRP.

- Assumptions presented included transportation and building electrification projections, high and low gas prices, Hoover Dam and small hydro generation forecasts, energy efficiency savings, greenhouse gas emission allowance prices, demand response deployment, battery energy storage costs, and hydrogen turbine costs.

- Major Themes from Advisory Group Member Discussion and Questions
    - Desire to see more microgrids to create local resilience and increased equitable investments in local communities.
    - Comment on lack of coordination and buy-in from local elected officials on microgrids and how microgrids have challenging requirements for high energy efficiency, and large amounts of solar and nighttime storage. It may be more economical to just subsidize bills instead of building microgrids.
    - Concerns about hydrogen being explosive and leaks being devastating, as well as embrittlement of storage and transportation pipelines.
    - Comments on how manufacturers such as Mitsubishi state they are working on finding a way to suppress nitrous oxides from their hydrogen turbines.
    - N-1-1 as a resiliency analysis may be a somewhat narrow scope for substantive results, as it does not entail other external effects such as those weather-related. An estimate for outage impacts is ~$2.5 billion in lost economic activity in parts of California for an 8-hour outage, as recently discussed by So Cal Gas (https://www.socalgas.com/sites/default/files/2021-10/Roles_Clean_Fuels_Full_Report.pdf)
    - Comments on whether private industry, in light of meltdown of various outside suppliers, will have the willingness to near the capital costs the LA100 Study assumed are necessary, and if LADWP is shifting philosophies from owning its own generation to now buying it from others.
    - Does gas pricing in the model include transmission and infrastructure costs, or does it only reflect the gas supply? Also, are rising gas prices considered, including transmission and infrastructure, as customers that are currently paying for this will be displaced due to electrification?
        - *A: The supply-side costs are reflected, assuming transmission costs are embedded in those figures, but not reflective of building new pipelines. We also have costs for multiple gas sources.*
    - Rate impacts were mentioned as some of the expected study outputs. A lot of the proposed investments are via "pass-through" power purchase agreements. Will this only address rate impact or also bill impact? Previous presentations by the Ratepayer Advocate indicated that almost half of the additions would be wind and solar power purchase agreements, which are "past-through". Also, how will different customers be addressed in the study output?
        - *A: Yes, we expect to address both bill impacts and different classes of customers.*
    - LADWP hopes to get demand reductions over 500 MW, yet is also hoping for more

sales due to electrification, to spread out the capital costs required for LA100 investments and lower the burden on ratepayers – this is confusing.

- From an economist standpoint, if the electrification load materializes, it might be economic to burn ~5% of natural gas per year, get greater greenhouse gas emissions reductions in the economy at large, and keep bills low.
- Is there an opportunity to model long-duration energy storage? Perhaps a request for information can be solicited and the results used for an alternative scenario, as it was not fully captured in the LA100 study. The community choice aggregators recently went through a request for information and the turnaround time may not be that long.
    - *A: For long-duration energy storage, we are currently considering hydrogen storage and waiting on responses to a request for information. Our consultant has software to study the economics.*
- What are the impacts on the economy if the lights go out, and also what are the underlying assumptions as to the cost of the third-party buildouts and rate of returns for LA100 Study projects?
    - *A: The LA100 Study's costs are obtained from the NREL Annual Technology Baseline, publicly accessible online. Regarding resiliency, we are trying to quantify the economic impacts and see what capabilities we have to do that. We hope to run simulations with 200-250 repetitions that vary load and weather, and seek to remain below 2.4 hours/year in loss of load expectation. There is not one metric that captures this, but we do plan to look at scenarios without some of the major transmission corridors available. We are a full decade ahead of the state's ambitions and alone cannot solve climate change but can have a big impact in leading the state and country. If we fail in not achieving our goals reliably and equitably, we will have failed to reach our goals with a blueprint that is repeatable. We need to ensure we do this right.*
- Consider assessing long duration energy storage technologies such as Compressed Air Energy Storage (CAES), Liquid Air Energy Storage (LAES), flow, pumped hydro storage, and iron air separately from hydrogen storage as there are different cost structures and emissions profiles. This may potentially be able to help identify the duration of storage and generation needed for resiliency and contingency-related reliability.
- LADWP's comments are appreciated. The U.S. is not only the largest global emitter but is also responsible for a lot of the historic emissions. We owe the world and future generations ambitious targets and equitable access to those that have been historically marginalized.
- Care needs to be taken when considering hydrogen, especially for frontline communities who may face even more local air impacts: https://earthjustice.org/features/green-hydrogen-renewable-zero-emission
- Inquiries on how the SLTRP will take into consideration results from the LA100 Equity Strategy effort.
- It appears that the green hydrogen solution is to please political interests rather than being a sane and reasonable cost solution.

5. 2022 SLTRP: Draft Scenario Matrix Discussion

- Lim presented feedback from AG Meeting #4, highlighting the SLTRP Process (35%), Rates (16%), and Green Hydrogen (11%) as the top three categories of interest to the AG. Details relating to these categories include:

- SLTRP Process (35%):
  - SB100 should be the reference case
  - More meetings are desired to allow additional opportunities for feedback
  - Additional scenarios with more distributed energy resources are desired
  - All scenarios should meet the City Council Motion
- Rates (16%)
  - Impacts on bills and capital expenditures should be clearly reported
- Green Hydrogen (11%)
  - Will hydrogen fuel cells be considered for in-basin use?
  - What is the cost of transitioning to hydrogen?
  - Hydrogen is not understood in many communities and more discussion needs to focus on it.

- Lim then continued on to present an overview of the SLTRP modeling process, broken down into Phase I where core cases will be modeled and price sensitivities applied, and Phase II where "What-If" sensitivities would be applied to a tentative draft recommended case to explore factors outside of LADWP's control such as loads and technology maturity. Additionally, Phase II will include a public outreach period. Furthermore, Lim showed an updated matrix for the core cases, highlighting the list of eligible technologies assumed for each – in which renewables will be considered as primary technologies and zero-carbon fuels as secondary backup technologies where applicable, as well as assumptions for distributed energy resources, and use of renewable energy credits, among others. The price sensitivities shown for consideration are high and low fuel prices, greenhouse gas emission allowances, and energy storage prices.

- Major Themes from Advisory Group Member Discussion and Questions
  - Feedback that the scenarios generally look good.
  - Concerns regarding the criticality of ensuring enough generation is maintained to ensure a reliable system in light of potential large increases in transportation and building electrification.
  - What is the highest projection we have for new technology such as solar and microgrids within the basin? Also, what percentage of the portfolio is achievable if we max out investments and creatively consider underground tunneling and land?
    - *A: The SLTRP group is currently working with the Distributed Energy Resources group to develop high local solar and max distributed energy resource projections.*
  - For the scenario matrix, could you explain in a little more detail what the "limited" and "secondary" descriptions in the hydrogen row mean?
    - *A: The designations mean we only expect hydrogen to be used during system stress conditions. "Limited" means we try to avoid the buildout of zero-carbon green hydrogen turbines by maximizing distributed energy resource deployment.*
  - Because 2030 is too early for cost-effective, reliable, and safe green hydrogen use in-basin, a two-phase solution makes sense where LADWP plans on using natural gas for resiliency in the intermediate term, and then converts to green hydrogen when and if it becomes practical.
  - Remove scenario names that imply a preference
  - Consider splitting out new vs upgraded transmission in the scenario matrix, since new transmission is higher risk.

- Does this set of scenarios adequately consider cases of low retail load growth due to the net energy metered (NEM) solar and storage growth? How NEM 3.0 rolls out will be important regarding how local solar grows and its impacts to revenue.
    - *A: At the moment, the core scenarios have a moderate load consistent with our Financial Services Organization load forecast with some levels of net energy metered solar. Our high distributed energy resources scenario may help answer some of these questions. We would like feedback on whether we should model a low load, but need data points.*
- Load growth over the past decade has been flat-to-negative. Are the load growth projections shown, reliable and trustworthy? The trends should incorporate historical information. San Diego Gas & Electric is currently losing a lot of load year-over-year.
    - *A: We may have an opportunity to look closer into this as a "What-If" scenario.*
- What are reasonable offramps if hydrogen does not materialize? Nitrogen oxides (NOx) may possibly be higher for hydrogen plants than gas plants in the nearby communities, and assumptions would have to be figured out for how much it would cost to store and transport hydrogen, including costs for new pipelines. This should be captured in the modeling and there should be a non-hydrogen case for comparison
    - *A: All original equipment manufacturers LADWP has spoken to indicate that we would not have any issues meeting NOx limits when transitioning over to hydrogen. The LA100 Study showed a dramatic reduction in capacity factor of the generating stations when transitioning from natural gas to hydrogen. We will continue to look at this as part of the SLTRP and make sure we are very transparent about capacity factors and NOx emissions, and attempt to show what those might be.*
- In the capacity factor reduction, show how much NOx increases/decreases during the ramping of the plants. A projection of the total NOx expected in your best-case scenario as well as during peak hours on the worst day, and overall quantity and intensity, is needed.
    - *A: We will try to address this. We just closed our in-basin hydrogen request for information which will begin to shed light on those topics.*
- Interest and desire for additional meetings to continue dialogue.
- Desire to hear results from LADWP's request for information on in-basin green hydrogen, in particular, insights on expected emissions controls, transportation, and storage.
- Comments on how H2 investments in Europe and around the world will help address costs, storage, and emissions issues
- Comments that neighbors and LA communities need to stop bearing the burden of emissions
- Keeping the equity and health discussions separate from this is counter to what was pushed for in the LA100 Study. The Board of Commissioners made it clear that these issues should be pursued at the same level and factored into the cost-benefit analyses, not simply as add-ons.
- Local energy storage should be factored into resiliency analyses
- Discounting in-basin energy storage and other viable strategies due to "space issues" is limiting. The scenarios need to address the value of fully leveraging the City's resources, despite the historical barriers.

POLLING RESULTS[2]

Question #1: Which of the following reflects your view about the following statement? The draft scenarios presented by LADWP today capture the range of the Advisory Group's interests and priorities for the SLTRP process.

- Total Responses: 21
- A. Strongly Agree: 3 (14%)
- B. Agree: 1 (5%)
- C. Good Enough: 10 (48%)
- D. Not Yet: 7 (33%)

6. Wrap Up and Next Steps

- Next meeting will be on Friday, November 19, 2021 (10am-12pm) and will cover Distribution Automation, as well as additional discussion on potential modeling scenarios and the scenario matrix.

Next Meeting: Friday, November 19, 2021; 10:00 am-12:00pm, WebEx Platform (Virtual)

[2] Comments and poll results shown are informal and should not be considered a representative nor complete illustration of the Advisory Group's opinion at large. 14 AG members responded live and 7 responded via email for a total of 21 responses